19. L. 107

12

Sliding Concepts into perceptual world p. 38

Volition as cause p. 87

$h\frac{13}{14}$ (Ans R. s) + h113 + h115

h57 =
h71 (Why?)

WORKS BY

GEORGE JOHN ROMANES, M.A., LL.D., F.R.S.

DARWIN, AND AFTER DARWIN: an Exposition of the Darwinian Theory, and a Discussion on Post-Darwinian Questions.

PART I. THE DARWINIAN THEORY. With Portrait of Darwin and 125 Illustrations. *Crown* 8*vo*, 10*s*. 6*d*.

PART II. POST-DARWINIAN QUESTIONS: HEREDITY AND UTILITY. *Crown* 8*vo*.

AN EXAMINATION OF WEISMANNISM. *Crown* 8*vo*, 6*s*.

MIND AND MOTION AND MONISM. *Crown* 8*vo*.

THOUGHTS ON RELIGION. Edited, with a Preface, by CHARLES GORE, M.A., Canon of Westminster. *Crown* 8*vo*, 4*s*. 6*d*.

London

LONGMANS, GREEN & CO.

MIND AND MOTION

AND

MONISM

BY THE LATE

GEORGE JOHN ROMANES, M.A., LL.D., F.R.S.

HONORARY FELLOW OF GONVILLE AND CAIUS COLLEGE, CAMBRIDGE

NEW YORK

LONGMANS, GREEN, AND CO.

AND LONDON

1895

9K64

Digitized by the Internet Archive
in 2010 with funding from
Open Knowledge Commons and Harvard Medical School

http://www.archive.org/details/mindmotionmonism00roma

PREFACE

OF the contents of this little volume the section on *Mind and Motion* which forms, in accordance with a suggestion of the author's, a general introduction, was delivered at Cambridge as the Rede Lecture in 1885, and was printed in the *Contemporary Review* for June in that year. The chapter on *The World as an Eject* was published, almost as it now stands, in the *Contemporary Review* for July, 1886. A paper on *The Fallacy of Materialism*, of which Mr. Romanes incorporated the more important parts in the Essay on Monism, was contributed to the *Nineteenth Century* for December, 1882. The rest was left in MS. and was probably written in 1889 or 1890.

The subjects here discussed frequently occupied Mr. Romanes' keen and versatile mind. Had not

the hand of death fallen upon him while so much of the ripening grain of his thought still remained to be finally garnered, some modifications and extensions of the views set forth in the Essay on Monism would probably have been introduced. Attention may be drawn, for example, to the sentence on p. 139, italicized by the author himself, in which it is contended that the will as agent *must be identified with the principle of Causality*. I have reason to believe that the chapter on *The World as an Eject* would, in a final revision of the Essay as a whole, have been modified so as to lay stress on this identification of the human will with the principle of Causality in the world at large—a doctrine the relation of which to the teachings of Schopenhauer will be evident to students of philosophy.

But the hand of death closed on the thinker ere his thought had received its full and ultimate expression. When in July, 1893, I received from Mr. Romanes instructions with regard to the publication of that which now goes forth to the world in his name, his end seemed very near ; and he said with faltering voice, in tones the pathos of which lingers with me still, that this and much besides must, he feared, be left unfinished. He suggested that perhaps I might revise the parts in

the light of the whole. But I have thought it best to leave what he had written as he wrote it, save for quite unimportant emendations, lest in revising I should cast over it the shadow of my own opinions.

It only remains to add that the conclusions reached in this Essay should be studied in connection with the later *Thoughts on Religion* which Canon Gore has recently edited.

C. Ll. M.

Bristol,
May, 1895.

CONTENTS

	PAGE
MIND AND MOTION	1
MONISM	39
INTRODUCTION	41
CHAPTER I. SPIRITUALISM	47
„ II. MATERIALISM	55
„ III. MONISM	79
„ IV. THE WORLD AS AN EJECT . .	88
„ V. THE WILL IN RELATION TO MATERIALISM AND SPIRITUALISM .	119
„ VI. THE WILL IN RELATION TO MONISM	129

BOSTON MEDICAL
MAY 25 1911
LIBRARY.

MIND AND MOTION

[REDE LECTURE, 1885.]

THE earliest writer who deserves to be called a psychologist is Hobbes; and if we consider the time when he wrote, we cannot fail to be surprised at what I may term his prevision of the most important results which have now been established by science. He was the first clearly to sound the note which has ever since constituted the bass, or fundamental tone, of scientific thought. Let us listen to it through the clear instrumentality of his own language:—

'All the qualities called sensible are, in the object which causeth them, but so many motions of the matter by which it presseth on our organs diversely. Neither in us that are pressed are they anything else but divers motions; for motion produceth nothing but motion. . . . The cause of sense is the external body or object, which presseth the organ proper to each sense, either immediately, as in taste and touch, or mediately, as in hearing, seeing, and smelling; which pressure, by the mediation of the nerves, and other strings and membranes of the body, continued inwards to

the brain and heart, causeth there a resistance, or counter-pressure, or endeavour. . . . And because *going*, *speaking*, and the like voluntary motions, depend always upon a precedent thought of *whither*, *which way*, and *what*; it is evident that the imagination [or idea] is the first internal beginning of all voluntary motion. And although unstudied men do not conceive any motion at all to be there, where the thing moved is invisible; or the space it is moved in is, for the shortness of it, insensible; yet that doth not hinder, but that such motions are. These small beginnings of motion, within the body of man, before they appear in walking, speaking, striking, and other visible actions, are commonly called ENDEAVOUR[1].'

These quotations are sufficient to show that the system of Hobbes was prophetic of a revelation afterwards declared by two centuries of scientific research. For they show how plainly he taught that all our knowledge of the external world is a knowledge of motion; and, again, that all our acquisitions of knowledge and other acts of mind themselves imply, as he elsewhere says, some kind of 'motion, agitation, or alteration, which worketh in the brain.' That he conceived such motion, agitation, or alteration to be, from its extreme minuteness, 'invisible' and 'insensible,' or, as we should now say, molecular, is likewise evident. I can therefore imagine the delight with which he would hear me speak when I say, that it is no longer a matter of keen-sighted speculation, but a matter of carefully demonstrated fact, that all our knowledge of the external world is nothing

[1] *Leviathan*, pt. i. chaps. i. and vi.

more than a knowledge of motion. For all the forms of energy have now been proved to be but modes of motion; and even matter, if not in its ultimate constitution vortical motion, at all events is known to us only as changes of motion: all that we perceive in what we call matter is change in modes of motion. We do not even know what it is that moves; we only know that when some modes of motion pass into other modes, we perceive what we understand by matter. It would take me too long to justify this general statement so that it should be intelligible to every one; but I am confident that all persons who understand such subjects will, when they think about it, accept this general statement as one which is universally true. And, if so, they will agree with Hobbes that all our knowledge of the external world is a knowledge of motion.

Now, if it would have been thus a joy to Hobbes to have heard to-day how thoroughly he has been justified in his views touching the external world, with no less joy would he have heard that he has been equally justified in his views touching the internal world. For it has now been proved, beyond the possibility of dispute, that it is only in virtue of those invisible movements which he inferred that the nervous system is enabled to perform its varied functions.

To many among the different kinds of movement going on in the external world, the animal body is adapted to respond by its own movements as best

suits its own welfare ; and the mechanism whereby this is effected is the neuro-muscular system. Those kinds of movement going on in the external world which are competent to evoke responsive movements in the animal body are called by physiologists stimuli. When a stimulus falls upon the appropriate sensory surface, a wave of molecular movement is sent up the attached sensory nerve to a nerve-centre, which thereupon issues another wave of molecular movement down a motor nerve to the group of muscles over whose action it presides ; and when the muscles receive this wave of nervous influence they contract. This kind of response to stimuli is purely mechanical, or non-mental, and is ordinarily termed reflex action. The whole of the spinal cord and lower part of the brain are made up of nerve-centres of reflex action ; and, in the result, we have a wonderfully perfect machine in the animal body considered as a whole. For while the various sensory surfaces are severally adapted to respond to different kinds of external movement—the eye to light, the ear to sound, and so on—any of these surfaces may be brought into suitable relation with any of the muscles of the body by means of the cerebro-spinal nerve-centres and their intercommunications.

So much, then, for the machinery of the body. We must now turn to consider the corporeal seat of the mind, or the only part of the nervous system wherein the agitation of nervous matter is accompanied with consciousness. This is composed of

a double nerve-centre, which occurs in all vertebrated animals, and the two parts of which are called the cerebral hemispheres. In man this double nerve-centre is so large that it completely fills the arch of the skull, as far down as the level of the eyebrows. The two hemispheres of which it consists meet face to face in the middle line of the skull, from the top of the nose backwards. Each hemisphere is composed of two conspicuously distinct parts, called respectively the grey matter and the white matter. The grey matter is external, enveloping the white matter like a skull-cap, and is composed of an inconceivable number of nerve-cells connected together by nerve-fibres. It is computed that in a human brain there cannot be less than a thousand millions of cells, and five thousand millions of fibres. The white matter is composed only of nerve-fibres, which pass downwards in great strands of conducting tissue to the lower centres of the brain and spinal cord. So that the whole constitutes one system, with the grey matter of the cerebral hemispheres at the apex or crown.

That the grey matter of the cerebral hemispheres is the exclusive seat of mind is proved in two ways. In the first place, if we look to the animal kingdom as a whole, we find that, speaking generally, the intelligence of species varies with the mass of this grey matter. Or, in other words, we find that the process of mental evolution, on its physical side, has consisted in the progressive development of

this grey matter superimposed upon the pre-existing nervous machinery, until it has attained its latest and maximum growth in man.

In the second place, we find that when the grey matter is experimentally removed from the brain of animals, the animals continue to live; but are completely deprived of intelligence. All the lower nerve-centres continue to perform their mechanical adjustments in response to suitable stimulation; but they are no longer under the government of the mind. Thus, for instance, when a bird is mutilated in this way, it will continue to perform all its reflex adjustments—such as sitting on a perch, using its wings when thrown into the air, and so forth; but it no longer remembers its nest or its young, and will starve to death in the midst of its food, unless it be fed artificially.

Again, if the grey matter of only one hemisphere be removed, the mind is taken away from the corresponding (i. e. the opposite) side of the body, while it remains intact on the other side. For example, if a dog be deprived of one hemisphere, the eye which was supplied from it with nerve-fibres continues able to see, or to transmit impressions to the lower nerve-centre called the optic ganglion; for this eye will then mechanically follow the hand waved in front of it. But if the hand should hold a piece of meat, the dog will show no mental recognition of the meat, which of course it will immediately seize if exposed to the view of its other eye. The same thing is found to

happen in the case of birds: on the injured side *sensation*, or the power of responding to a stimulus, remains intact; while *perception*, or the power of mental recognition, is destroyed.

This description applies to the grey matter of the cerebral hemispheres as a whole. But of course the question next arises whether it only acts as a whole, or whether there is any localization of different intellectual faculties in different parts of it. Now, in answer to this question, it has long been known that the faculty of speech is definitely localized in a part of the grey matter lying just behind the forehead; for, when this part is injured, a man loses all power of expressing even the most simple ideas in words, while the ideas themselves remain as clear as ever. It is remarkable that in each individual only this part of one hemisphere appears to be used; and there is some evidence to show that left-handed persons use the opposite side from right-handed. Moreover, when the side which is habitually in use is destroyed, the corresponding part of the other hemisphere begins to learn its work, so that the patient may in time recover his use of language.

Within the last few years the important discovery has been made, that by stimulating with electricity the surface of the grey matter of the hemispheres, muscular movements are evoked; and that certain patches of the grey matter, when thus stimulated, always throw into action the same groups of muscles. In other words, there are

definite local areas of grey matter, which, when stimulated, throw into action definite groups of muscles. The surface of the cerebral hemispheres has now been in large measure explored and mapped out with reference to these so-called motor-centres; and thus our knowledge of the neuro-muscular machinery of the higher animals (including man) has been very greatly furthered. Here I may observe parenthetically that, as the brain is insentient to injuries inflicted upon its own substance, none of the experiments to which I have alluded entail any suffering to the animals experimented upon; and it is evident that the important information which has thus been gained could not have been gained by any other method. I may also observe that as these motor-centres occur in the grey matter of the hemispheres, a strong probability arises that they are not only the motor-centres, but also the volitional centres which originate the intellectual commands for the contraction of this and that group of muscles. Unfortunately we cannot interrogate an animal whether, when we stimulate a motor-centre, we arouse in the animal's mind an act of will to throw the corresponding group of muscles into action; but that these motor-centres are really centres of volition is pointed to by the fact, that electrical stimuli have no longer any effect upon them when the mental faculties of the animal are suspended by anæsthetics, nor in the case of young animals where the mental faculties have not yet been sufficiently developed to admit

of voluntary co-ordination among the muscles which are concerned. On the whole, then, it is not improbable that on stimulating artificially these motor-centres of the brain, a physiologist is actually playing from without, and at his own pleasure, upon the volitions of the animal.

Turning, now, from this brief description of the structure and leading functions of the principal parts of the nervous system, I propose to consider what we know about the molecular movements which go on in different parts of this system, and which are concerned in all the processes of reflex adjustment, sensation, perception, emotion, instinct, thought, and volition.

First of all, the rate at which these molecular movements travel through a nerve has been measured, and found to be about 100 feet per second, or somewhat more than a mile a minute, in the nerves of a frog. In the nerves of a mammal it is just about twice as fast; so that if London were connected with New York by means of a mammalian nerve instead of an electric cable, it would require nearly a whole day for a message to pass.

Next, the time has also been measured which is required by a nerve-centre to perform its part in a reflex action, where no thought or consciousness is involved. This time, in the case of the winking reflex, and apart from the time required for the passage of the molecular waves up and down the sensory and motor nerves, is about $\frac{1}{20}$ of a second.

Such is the rate at which a nerve-centre conducts its operations when no consciousness or volition is involved. But when consciousness and volition are involved, or when the cerebral hemispheres are called into play, the time required is considerably greater. For the operations on the part of the hemispheres which are comprised in perceiving a simple sensation (such as an electrical shock) and the volitional act of signalling the perception, cannot be performed in less than $\frac{1}{12}$ of a second, which is nearly twice as long as the time required by the lower nerve-centres for the performance of a reflex action. Other experiments prove that the more complex an act of perception, the more time is required for its performance. Thus, when the experiment is made to consist, not merely in signalling a perception, but in signalling one of two or more perceptions (such as an electrical shock on one or other of the two hands, which of five letters is suddenly exposed to view, &c.), a longer time is required for the more complex process of distinguishing which of the two or more expected stimuli is perceived, and in determining which of the appropriate signals to make in response. The time consumed by the cerebral hemispheres in meeting a 'dilemma' of this kind is from $\frac{1}{5}$ to $\frac{1}{20}$ of a second longer than that which they consume in the case of a simpler perception. Therefore, whenever mental operations are concerned, a relatively much greater time is required for a nerve-centre to perform its adjustments than when a

merely mechanical or non-mental response is needed; and the more complex the mental operation the more time is necessary. Such may be termed the physiology of deliberation.

So much, then, for the rate at which molecular movements travel through nerves, and the times which nerve-centres consume in performing their molecular adjustments. We may next consider the researches which have been made within the last few months upon the rates of these movements themselves, or the number of vibrations per second with which the particles of nervous matter oscillate.

If, by means of a suitable apparatus, a muscle is made to record its own contraction, we find that during all the time it is in contraction, it is undergoing a vibratory movement at the rate of about nine pulsations per second. What is the meaning of this movement? The meaning is that the act of will in the brain, which serves as a stimulus to the contraction of the muscle, is accompanied by a vibratory movement in the grey matter of the brain; that this movement is going on at the rate of nine pulsations per second; and that the muscle is giving a separate or distinct contraction in response to every one of these nervous pulsations. That such is the true explanation of the rhythm in the muscle is proved by the fact that if, instead of contracting a muscle by an act of the will, it be contracted by means of a rapid series of electrical shocks playing upon its attached nerve, the record then furnished shows a similar trembling going on in the muscle

as in the previous case; but the tremors of contraction are now no longer at the rate of nine per second: they correspond beat for beat with the interruptions of the electrical current. That is to say, the muscle is responding separately to every separate stimulus which it receives through the nerve; and further experiment shows that it is able thus to keep time with the separate shocks, even though these be made to follow one another so rapidly as 1,000 per second. Therefore we can have no doubt that the slow rhythm of nine per second under the influence of volitional stimulation, represents the rate at which the muscle is receiving so many separate impulses from the brain: the muscle is keeping time with the molecular vibrations going on in the cerebral hemispheres at the rate of nine beats per second. Careful tracings show that this rate cannot be increased by increasing the strength of the volitional stimulus; but some individuals—and those usually who are of quickest intelligence—display a somewhat quicker rate of rhythm, which may be as high as eleven per second. Moreover, it is found that by stimulating with strychnine any of the centres of reflex action, pretty nearly the same rate of rhythm is exhibited by the muscles thus thrown into contraction; so that all the nerve-cells in the body are thus shown to have in their vibrations pretty nearly the same period, and not to be able to vibrate with any other. For no matter how rapidly the electrical shocks are allowed to play upon the grey matter

of the cerebral hemispheres, as distinguished from the nerve-trunks proceeding from them to the muscles, the muscles always show the same rhythm of about nine beats per second: the nerve-cells, unlike the nerve-fibres, refuse to keep time with the electric shocks, and will only respond to them by vibrating at their own intrinsic rate of nine beats per second.

Thus much, then, for the rate of molecular vibration which goes on in nerve-centres. But the rate of such vibration which goes on in sensory and motor nerves may be very much more rapid. For while a nerve-centre is only able to *originate* a vibration at the rate of about nine beats per second, a motor-nerve, as we have already seen, is able to *transmit* a vibration of at least 1,000 beats per second; and a sensory nerve which at the surface of its expansion is able to respond differently to differences of musical pitch, of temperature, and even of colour, is probably able to vibrate very much more rapidly even than this. We are not, indeed, entitled to conclude that the nerves of special sense vibrate in actual unison, or synchronize, with these external sources of stimulation; but we are, I think, bound to conclude that they must vibrate in some numerical proportion to them (else we should not perceive objective differences in sound, temperature, or colour); and even this implies that they are probably able to vibrate at some enormous rate.

With further reference to these molecular move-

ments in sensory nerves, the following important observation has been made—viz. that there is a constant ratio between the amount of agitation produced in a sensory nerve, and the intensity of the corresponding sensation. This ratio is not a direct one. As Fechner states it, 'Sensation varies, not as the stimulus, but as the logarithm of the stimulus.' Thus, for instance, if 1,000 candles are all throwing their light upon the same screen, we should require ten more candles to be added before our eyes could perceive any difference in the amount of illumination. But if we begin with only 100 candles shining upon the screen, we should perceive an increase in the illumination by adding a single candle. And what is true of sight is equally true of all the other senses: if any stimulus is increased, the smallest increase of sensation first occurs when the stimulus rises one per cent. above its original intensity. Such being the law on the side of sensation, suppose that we place upon the optic nerve of an animal the wires proceeding from a delicate galvanometer, we find that every time we stimulate the eye with light, the needle of the galvanometer moves, showing electrical changes going on in the nerve, caused by the molecular agitations. Now these electrical changes are found to vary in intensity with the intensity of the light used as a stimulus, and they do so very nearly in accordance with the law of sensation just mentioned. So we say that in sensation the cerebral hemispheres are, as it were, acting the

part of galvanometers in appreciating the amount of molecular change which is going on in sensory nerves ; and that they record their readings in the mind as faithfully as a galvanometer records its readings on the dial.

Hitherto we have been considering certain features in the physiology of nervous action, so far as this can be appreciated by means of physiological instruments. But we have just seen that the cerebral hemispheres may themselves be regarded as such instruments, which record in our minds their readings of changes going on in our nerves. Hence, when other physiological instruments fail us, we may gain much additional insight touching the movements of nervous matter by attending to the thoughts and feelings of our own minds ; for these are so many indices of what is going on in the cerebral hemispheres. I therefore propose next to contemplate the mind, considered thus as a physiological instrument.

The same scientific instinct which led Hobbes so truly to anticipate the progress of physiology, led him not less truly to anticipate the progress of psychology. For just as he was the first to enunciate the fundamental principle of nerve-action in the vibration of molecules, so was he likewise the first to enunciate the fundamental principle of psychology in the association of ideas. And the great advance of knowledge which has been made since his day with respect to both these principles, entitles us to

be much more confident than even he was that they are in some way intimately united. Moreover, the manner in which they are so united we have begun clearly to understand. For we know from our study of nerve-action in general, that when once a wave of invisible or molecular movement passes through any line of nerve-structure, it leaves behind it a change in the structure such that it is afterwards more easy for a similar wave, when started from the same point, to pursue the same course. Or, to adopt a simile from Hobbes, just as water upon a table flows most readily in the lines which have been wetted by a previous flow, so the invisible waves of nerve-action pass most readily in the lines of a previous passage. This is the reason why in any exercise requiring muscular co-ordination, or dexterity, 'practice makes perfect:' the nerve-centres concerned learn to perform their work by frequently repeating it, because in this way the needful lines of wave-movement in the structure of the nerve-centre are rendered more and more permeable by use. Now we have seen that in the nerve-centres called the cerebral hemispheres, wave-movement of this kind is accompanied with feeling. Changes of consciousness follow step by step these waves of movement in the brain, and therefore when on two successive occasions the waves of movement pursue the same pathway in the brain, they are attended with a succession of the same ideas in the mind. Thus we see that the tendency of ideas to *re*cur in the same order as that

in which they have previously occurred, is merely an obverse expression of the fact that lines of wave-movement in the brain become more and more permeable by use. So it comes that a child can learn its lessons by frequently repeating them; so it is that all our knowledge is accumulated; and so it is that all our thinking is conducted.

A wholly new field of inquiry is thus opened up. By using our own consciousness as a physiological instrument of the greatest delicacy, we are able to learn a great deal about the dynamics of brain-action concerning which we should otherwise remain in total ignorance. But the field of inquiry thus opened up is too large for me to enter upon to-day. I will therefore merely observe, in general terms, that although we are still very far from understanding the operations of the brain in thought, there can be no longer any question that in these operations of the brain we have what I may term the objective machinery of thought. 'Not every thought to every thought succeeds indifferently,' said Hobbes. Starting from this fact, modern physiology has clearly shown why it is a fact; and looking to the astonishing rate at which the science of physiology is now advancing, I think we may fairly expect that within a time less remote than the two centuries which now separate us from Hobbes, the course of ideas in a given train of thought will admit of having its footsteps tracked in the corresponding pathways of the brain. Be this, however, as it may, even now we know enough

to say that, whether or not these footsteps will ever admit of being thus tracked in detail, they are all certainly present in the cerebral structures of each one of us. What we know on the side of mind as logical sequence, is on the side of the nervous system nothing more than a passage of nervous energy through one series of cells and fibres rather than through another: what we recognize as truth is merely the fact of the brain vibrating in tune with Nature.

Such being the intimate relation between nerve-action and mind-action, it has become the scientifically orthodox teaching that the two stand to one another in the relation of cause to effect. One of the most distinguished of my predecessors in this place, the President of the Royal Society, has said in one of the most celebrated of his lectures:—'We have as much reason for regarding the mode of motion of the nervous system as the cause of the state of consciousness, as we have for regarding any event as the cause of another.' And, by way of perfectly logical deduction from this statement, Professor Huxley argues that thought and feeling have nothing whatever to do with determining action: they are merely the bye-products of cerebration, or, as he expresses it, the indices of changes which are going on in the brain. Under this view we are all what he terms conscious automata, or machines which happen, as it were by chance, to be conscious of some of their own movements. But

the consciousness is altogether adventitious, and bears the same ineffectual relation to the activity of the brain as a steam-whistle bears to the activity of a locomotive, or the striking of a clock to the time-keeping adjustments of the clock-work. Here, again, we meet with an echo of Hobbes, who opens his work on the Commonwealth with these words:—

'Nature, the art whereby God hath made and governs the world, is by the *art* of man, as in many other things, in this also imitated, that it can make an artificial animal. For seeing life is but a motion of limbs, the beginning whereof is in the principal part within; why may we not say, that all *automata* (engines that move themselves by springs and wheels as doth a watch), have an artificial life? For what is the *heart*, but a *spring*; and the *nerves*, but so many *strings*; and the *joints*, but so many *wheels*, giving motion to the whole body, such as was intended by the artificer[1]?'

Now, this theory of conscious automatism is not merely a legitimate outcome of the theory that nervous changes are the causes of mental changes, but it is logically the only possible outcome. Nor do I see any way in which this theory can be fought on grounds of physiology. If we persist in regarding the association between brain and thought exclusively from a physiological point of view, we must of necessity be materialists. Further, so far as we are physiologists our materialism can do us no harm. On the contrary, it is to us of the utmost service, as at once the simplest physiological

[1] *Leviathan*, Introduction.

explanation of facts already known, and the best working hypothesis to guide us in our further researches. But it does not follow from this that the theory of materialism is true. The bells of St. Mary's over the way always ring for a quarter of an hour before the University sermon ; yet the ringing of the bells is not the cause of the sermon, although, as long as the association remains constant, there would be no harm in assuming, for any practical purposes, that it is so. But just as we should be wrong in concluding, if we did not happen to know so much about the matter as we do, that the University sermon is produced by the vibration of bells in the tower of St. Mary's Church, so we may be similarly wrong if we were definitely to conclude that the sermon is produced by the vibration of a number of little nerve-cells in the brain of the preacher.

Now, if time permitted, and if I supposed that you would all care to go with me into matters of some abstruseness, I could certainly prove that whatever the connexion between body and mind may be, we have the best possible reasons for concluding that it is not a causal connexion. These reasons are, of course, extra-physiological; but they are not on this account less conclusive. Within the limits of a lecture, however, I can only undertake to give an outline sketch of what I take to be the overwhelming argument against materialism.

We have first the general fact that all our know-

ledge of motion, and so of matter, is merely a knowledge of the modifications of mind. That is to say, all our knowledge of the external world—including the knowledge of our own brains—is merely a knowledge of our own mental states. Let it be observed that we do not even require to go so far as the irrefutable position of Berkeley, that the existence of an external world without the medium of mind, or of being without knowing, is inconceivable. It is enough to take our stand on a lower level of abstraction, and to say that whether or not an external world can exist apart from mind in any absolute or inconceivable sense, at any rate it cannot do so *for us*. We cannot think any of the facts of external nature without presupposing the existence of a mind which thinks them; and therefore, so far at least as we are concerned, mind is necessarily prior to everything else. It is for us the only mode of existence which is real in its own right; and to it, as to a standard, all other modes of existence which may be *in*ferred must be *re*ferred. Therefore, if we say that mind is a function of motion, we are only saying, in somewhat confused terminology, that mind is a function of itself.

Such, then, I take to be a general refutation of materialism. To use but a mild epithet, we must conclude that the theory is unphilosophical, seeing that it assumes one thing to be produced by another thing, in spite of an obvious demonstration that the alleged effect is necessarily prior to its cause. Such, I say, is a general refutation of materialism.

But this is far from being all. 'Motion,' says Hobbes, 'produceth nothing but motion;' and yet he immediately proceeds to assume that in the case of the brain it produces, not only motion, but mind. He was perfectly right in saying that with respect to its movements the animal body resembles an engine or a watch; and if he had been acquainted with the products of higher evolution in watch-making, he might with full propriety have argued, for instance, that in the compensating balance, whereby a watch adjusts its own movements in adaptation to external changes of temperature, a watch is exhibiting the mechanical aspect of volition. And, similarly, it is perhaps possible to conceive that the principles of mechanism might be more and more extended in their effects, until, in so marvellously perfected a structure as the human brain, all the voluntary movements of the body might be originated in the same mechanical manner as are the compensating movements of a watch; for this, indeed, as we have seen, is no more than happens in the case of all the nerve-centres other than the cerebral hemispheres. If this were so, motion would be producing nothing but motion, and upon the subject of brain-action there would be nothing further to say. Without consciousness I should be delivering this lecture; without consciousness you would be hearing it; and all the busy brains in this University would be conducting their researches, or preparing for their examinations,

mindlessly. Strange as such a state of things might be, still motion would be producing nothing but motion; and, therefore, if there were any mind to contemplate the facts, it would encounter no philosophical paradox: it would merely have to conclude that such were the astonishing possibilities of mechanism. But, as the facts actually stand, we find that this is not the case. We find, indeed, that up to a certain level of complexity mechanism alone is able to perform all the compensations or adjustments which are performed by the animal body; but we also find that beyond this level such compensations or adjustments are never performed without the intervention of consciousness. Therefore, the theory of automatism has to meet the unanswerable question—How is it that in the machinery of the brain motion produces this something which is not motion? Science has now definitely proved the correlation of all the forces; and this means that if any kind of motion could produce anything else that is not motion, it would be producing that which science would be bound to regard as in the strictest sense of the word a miracle. Therefore, if we are to take our stand upon science—and this is what materialism professes to do—we are logically bound to conclude, not merely that the evidence of causation from body to mind is not so cogent as that of causation in any other case, but that in this particular case causation may be proved, again in the strictest sense of the term, a physical impossibility.

To adduce only one other consideration. Apart from all that I have said, is it not in itself a strikingly suggestive fact that consciousness only, yet always, appears upon the scene when the adjustive actions of any animal body rise above the certain level of intricacy to which I have alluded? Surely this large and general fact points with irresistible force to the conclusion, that in the performance of these more complex adjustments, consciousness—or the power of feeling and the power of willing—is of some *use*. Assuredly on the principles of evolution, which materialists at all events cannot afford to disregard, it would be a wholly anomalous fact that so wide and important a class of faculties as those of mind should have become developed in constantly ascending degrees throughout the animal kingdom, if they were entirely without use to animals. And, be it observed, this consideration holds good whatever views we may happen to entertain upon the special theory of natural selection. For the consideration stands upon the general fact that all the organs and functions of animals are of use to animals: we never meet, on any large or general scale, with organs and functions which are wholly adventitious. Is it to be supposed that this general principle fails just where its presence is most required, and that the highest functions of the highest organs of the highest animals stand out of analogy with all other functions in being themselves functionless? To this question I, for one, can only answer, and

answer unequivocally, No. As a rational being who waits to take a wider view of the facts than that which is open to the one line of research pursued by the physiologist, I am forced to conclude that not without a reason does mind exist in the frame of things; and that apart from the activity of mind, whereby motion is related to that which is not motion, this planet could never have held the wonderful being, who in multiplying has replenished the earth and subdued it—holding dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth.

What, then, shall we say touching this mysterious union of mind and motion? Having found it physically impossible that there should be a causal connexion proceeding from motion to mind, shall we try to reverse the terms, and suppose a causal connexion proceeding from mind to motion? This is the oldest and still the most popular theory—the theory of spiritualism. And, no doubt, in one important respect it is less unphilosophical than the opposite theory of materialism. For spiritualism supposes the causation to proceed from that which is the source of our idea of causality—the mind: not from that into which this idea has been read—the brain. Therefore, if causation were to be accepted as a possibility either way, it would be less unreasonable to suppose mental changes the causes of material changes than *vice versâ*; for we should then at least be starting from the basis of

immediate knowledge, instead of from the reflection of that knowledge in what we call the external world. Seeing that the external world is known to us only as motion, it is logically impossible for the mind to infer its own causation from the external world; for this would be to infer that it is an effect of motion, which would be the same as saying that it is an effect of its own knowledge; and this would be absurd. But, on the other hand, it is not thus logically impossible for the mind to infer that it may be the cause of some of its own knowledge, or, in other words, that it may have in some measure the power of producing what it knows as motion. And when the mind does infer this, no logic on earth is able to touch the inference; the position of pure idealism is beyond the reach of argument. Nevertheless, it is opposed to the whole momentum of science. For if mind is supposed, on no matter how small a scale, to be a cause of motion, the fundamental axiom of science is impugned. This fundamental axiom is that energy can neither be created nor destroyed—that just as motion can produce nothing but motion, so, conversely, motion can be produced by nothing but motion. Regarded, therefore, from the standpoint of physical science, the theory of spiritualism is in precisely the same case as the theory of materialism: that is to say, if the supposed causation takes place, it can only be supposed to do so by way of miracle.

And this is a conclusion which the more clear-

sighted of the idealists have expressly recognized. That subtle and most entertaining thinker, for example, the late Professor Green of Oxford, has said that the self-conscious volition of man 'does not consist in a series of natural events, . . . is not natural in the ordinary sense of that term; not natural at any rate in any sense in which naturalness would imply its determination by antecedent events, or by conditions of which it is not itself the source.'

Thus the theory of spiritualism, although not directly refutable by any process of logic, is certainly enfeebled by its collision with the instincts of physical science. In necessarily holding the facts of consciousness and volition super-natural, extra-natural, or non-natural, the theory is opposed to the principle of continuity.

Spiritualism being thus unsatisfactory, and materialism impossible, is there yet any third hypothesis in which we may hope to find intellectual rest? In my opinion there is. If we unite in a higher synthesis the elements both of spiritualism and of materialism, we obtain a product which satisfies every fact of feeling on the one hand, and of observation on the other. The manner in which this synthesis may be effected is perfectly simple. We have only to suppose that the antithesis between mind and motion—subject and object—is itself phenomenal or apparent: not absolute or real. We have only to suppose that the seeming duality is relative to our modes of apprehension; and,

therefore, that any change taking place in the mind, and any corresponding change taking place in the brain, are really not two changes, but one change. When a violin is played upon we hear a musical sound, and at the same time we see a vibration of the strings. Relatively to our consciousness, therefore, we have here two sets of changes, which appear to be very different in kind; yet we know that in an absolute sense they are one and the same: we know that the diversity in consciousness is created only by the difference in our modes of perceiving the same event—whether we see or whether we hear the vibration of the strings. Similarly, we may suppose that a vibration of nerve-strings and a process of thought are really one and the same event, which is dual or diverse only in relation to our modes of perceiving it.

The great advantage of this theory is that it supposes only one stream of causation, in which both mind and motion are simultaneously concerned. The theory, therefore, escapes all the difficulties and contradictions with which both spiritualism and materialism are beset. Thus, motion is supposed to be producing nothing but motion; mind-changes nothing but mind-changes: both producing both simultaneously, neither could be what it is without the other, because without the other neither could be the cause which in fact it is. Impossible, therefore, is the supposition of the materialist that consciousness is adventitious, or that in the absence

of mind changes of brain could be what they are; for it belongs to the very causation of these changes that they should have a mental side. The use of mind to animals is thus rendered apparent; for intelligent volition is thus shown to be a true cause of adjustive movement, in that the cerebration which it involves could not otherwise be possible: the causation would not otherwise be complete.

A simple illustration may serve at once to render this doctrine more easily intelligible, and to show that, if accepted, the doctrine, as it appears to me, terminates the otherwise interminable controversy on the freedom of the will.

In an Edison lamp the light which is emitted from the burner may be said indifferently to be caused by the number of vibrations per second going on in the carbon, or by the temperature of the carbon; for this rate of vibration could not take place in the carbon without constituting that degree of temperature which affects our eyes as luminous. Similarly, a train of thought may be said indifferently to be caused by brain-action or by mind-action; for, *ex hypothesi*, the one could not take place without the other. Now, when we contemplate the phenomena of volition by themselves, it is as though we were contemplating the phenomena of light by themselves: volition is produced by mind in brain, just as light is produced by temperature in carbon. And just as we may correctly speak of light as the cause, say, of a photograph, so we may correctly speak of volition

as the cause of bodily movement. That particular kind of physical activity which takes place in the carbon could not take place without the light which causes a photograph; and, similarly, that particular kind of physical activity which takes place in the brain could not take place without the volition which causes a bodily movement. So that volition is as truly a cause of bodily movement as is the physical activity of the brain; seeing that, in an absolute sense, the cause is one and the same. But if we once clearly perceive that what in a relative sense we know as volition is, in a similar sense, the cause of bodily movement, we terminate the question touching the freedom of the will. For this question in its last resort—and apart from the ambiguity which has been thrown around it by some of our metaphysicians—is merely the question whether the will is to be regarded as a cause of Nature. And the theory which we have now before us sanctions the doctrine that it may be so regarded, if only we remember that its causal activity depends upon its identity with the obverse aspect known as cerebration, without which identity in apparent duality neither volition nor cerebration could be the cause which in fact they are. It thus becomes a mere matter of phraseology whether we speak of the will determining, or being determined by, changes going on in the external world; just as it is but a matter of phraseology whether we speak of temperature determining, or being determined by, molecular vibration. All the requirements alike of the free-

will and of the bond-will hypotheses are thus satisfied by a synthesis which comprises them both. On the one hand, it would be as impossible for an *un*conscious automaton to do the work or to perform the adjustments of a conscious agent, as it would be for an Edison lamp to give out light and cause a photograph when not heated by an electric current. On the other hand, it would be as impossible for the will to originate bodily movement without the occurrence of a strictly physical process of cerebration, as it would be for light to shine in an Edison lamp which had been deprived of its carbon-burner.

It may be said of this theory that it is highly speculative, not verifiable by any possible experiment, and therefore at best is but a mere guess. All which is, no doubt, perfectly true ; but, on the other hand, we must remember that this theory comes to us as the only one which is logically possible, and at the same time competent to satisfy the facts alike of the outer and of the inner world. It is a speculation in the sense of not being verifiable by experiment ; but it has much more value than ordinarily attaches to an unverifiable speculation, in that there is really no alternative hypothesis to be considered: if we choose to call it a guess, we must at the same time remember it is a guess where it does not appear that any other is open. Once more to quote Hobbes, who, as we have seen, was himself a remarkable instance of what he here says: 'The best prophet naturally is the best guesser; and the best guesser, he that is most

versed and studied in the matters he guesses at.' In this case, therefore, the best prophet is not the physiologist, whose guess ends in materialism; nor the purely mental philosopher, whose guess ends in spiritualism; but rather the man who, being 'versed and studied' in all the facts appertaining to both sides of the matter, ends in the only alternative guess which remains open. And if that most troublesome individual, the 'plain man' of Locke, should say it seems at least opposed to common sense to suppose that there is anything in a burning candle or a rolling billiard-ball substantially the same as mind, the answer is that if he could look into my brain at this moment he would see nothing there but motion of molecules, or motion of masses; and apart from the accident of my being able to tell him so, his 'common sense' could never have divined that these motions in my brain are concerned in the genesis of my spoken thoughts.

It is obvious that from this hypothesis as to the substantial identity of mind and motion, two important questions arise; and I feel that some reference to these questions is in present circumstances forced upon me, because they have both been considered in precisely the same connexion by one of the most powerful intellects that was ever sent out into the world by this University. I mean the late Professor Clifford. As my intimate and valued friend, I desire to mention his name in this place with all the affec-

tion, as well as with all the admiration, to which I well know it is so fully entitled ; and if I appear to mention him only in order to disagree with him, this is only because I know equally well that in his large and magnanimous thought differences of philosophical opinion were never felt to weaken the bonds of friendship.

In his well-known lecture on Body and Mind, Professor Clifford adopted the hypothesis of identity which we are now considering, and from it was led to the conclusion that if in the case of cerebral processes motion is one with mind, the same must be true of motion wherever it occurs; or, as he expressed it subsequently, the whole universe must be made of mind-stuff. But in his view, although matter in motion presents what may be termed the raw material of mind, it is only in the highly elaborated constitution of the human brain that this raw material is sufficiently wrought up to yield a self-conscious personality. Hence the dissolution of a human brain implies the dissolution of a human mind ; and hence also the universe, although entirely composed of mind-stuff, is itself mindless. Now, all I have to say about these two deductions is this—they do not necessarily follow from the theory which is before us. In holding that the mind of man perishes with his body, and that above the mind of man there is no other, Clifford may have been right, or may have been wrong. I am not here to discuss at length any questions of such supreme importance. But I feel that I am here to

insist upon the one point which is immediately connected with my subject; and this is, that whether or not Clifford was right in his conclusions, these conclusions certainly did not follow by way of any logical sequence from his premises. Because within the limits of human experience mind is only known as associated with brain, it clearly does not follow that mind cannot exist in any other mode. It does not even follow that any probability upon this matter can be thus established. The basis of analogy on which Clifford sought to rear an inference of cosmical extent, was restricted to the one instance of mind as known upon one planet; and, therefore, it is hard to imagine a more precarious use of that precarious method which is called by logicians simple enumeration. Indeed, even for what it is worth, the inference may be pointed with quite as much effect in precisely the opposite direction. For we have seen how little it is that we understand of the one mode in which we certainly know that mind does exist; and if from this little we feel impelled to conclude that there is a mode of mind which is not restricted to brain, but co-extensive with motion, is con-substantial and co-eternal with all that was, and is, and is to come; have we not at least a suggestion, that high as the heavens are above the earth, so high above our thoughts may be the thoughts of such a mind as this? I offer no opinion upon the question whether the general order of Nature does not require some one explanatory cause; nor upon

the question whether the mind of man itself does not point to something kindred in the self-existing origin of things. I am not concerned to argue any point upon which I feel that opinions may legitimately differ. I am only concerned to show that, in so far as any deductions can be drawn from the theory which is before us, they make at least as much against as in favour of the cosmical conclusions arrived at by Clifford.

On February 17, in the year 1600, when the streets of Rome were thronged with pilgrims from all the quarters of Christendom, while no less than fifty cardinals were congregated for the Jubilee; into the densely crowded Campo di Fiori a man was led to the stake, where, 'silent and self-sustained,' before the eyes of all nations, he perished in the flames. That death was the death of a martyr: it was met voluntarily in attestation of truth. But most noble of all the noble army to which he belonged, the name of that man is written large in history, as the name of one who had fortitude to die, not in the cause of religious belief, but in that of scientific conviction. For why did Bruno suffer? He suffered, as we all know, because he refused to recant his persuasion of the truth of the Copernican theory. Why, then, do I adduce the name of Bruno at the close of this lecture? I do so because, as far as I have been able to ascertain, he was the first clearly to enunciate the monistic theory of things to which the consideration of my subject has conducted us.

This theory—or that as to the substantial identity of mind and motion—was afterwards espoused, in different guises, by sundry other writers; but to Bruno belongs the merit of its original publication, and it was partly for his adherence to this publication that he died. To this day Bruno is ordinarily termed a pantheist, and his theory, which in the light of much fuller knowledge I am advocating, Pantheism. I do not care to consider a difference of terms, where the only distinction resides in so unintelligible an idea as that of the creation of substance. It is more to the purpose to observe that in the mind of its first originator—and this a mind which was sufficiently clear in its thought to die for its perception of astronomical truth—the theory of Pantheism was but a sublime extension of the then contracted views of Theism. And I think that we of to-day, when we look to the teaching of this martyr of science, will find that in his theory alone do we meet with what I may term a philosophically adequate conception of Deity. If the advance of natural science is now steadily leading us to the conclusion that there is no motion without mind, must we not see how the independent conclusion of mental science is thus independently confirmed—the conclusion, I mean, that there is no being without knowing? To me, at least, it does appear that the time has come when we may begin, as it were in a dawning light, to see that the study of Nature and the study of Mind are meeting upon this greatest of possible truths. And if this is the

case—if there is no motion without mind, no being without knowing—shall we infer, with Clifford, that universal being is mindless, or answer with a dogmatic negative that most stupendous of questions—Is there knowledge with the Most High? If there is no motion without mind, no being without knowing, may we not rather infer, with Bruno, that it is in the medium of mind, and in the medium of knowledge, we live, and move, and have our being?

This, I think, is the direction in which the inference points, if we are careful to set the logical conditions with complete impartiality. But the ulterior question remains, whether, so far as science is concerned, it is here possible to point any inference at all: the whole orbit of human knowledge may be too narrow to afford a parallax for measurements so vast. Yet even here, if it be true that the voice of science must thus of necessity speak the language of agnosticism, at least let us see to it that the language is pure; let us not tolerate any barbarisms introduced from the side of aggressive dogma. So shall we find that this new grammar of thought does not admit of any constructions radically opposed to more venerable ways of thinking; even if we do not find that the often-quoted words of its earliest formulator apply with special force to its latest dialects—that if a little knowledge of physiology and a little knowledge of psychology dispose men to atheism, a deeper knowledge of both, and, still more, a deeper thought upon their relations to

one another, will lead men back to some form of religion, which, if it be more vague, may also be more worthy than that of earlier days.

> 'It is a beauteous evening, calm and free;
> The holy time is quiet as a nun,
> Breathless with adoration; the broad sun
> Is sinking down in its tranquillity;
> The gentleness of heaven is on the sea:
> Listen! the mighty being is awake,
> And doth with his eternal motion make
> A sound like thunder, everlastingly.'

This writer makes a fundamental error in considering mechanism a reality of the phenomenal world. Its reality it is "solely the mode by which we conceptually mimic the routine of our perceptions"

Concretely the fact may be put in some such manner as this: In our brain we have say one thousand millions of cells and five thousand millions of fibres (p. 5) These factors are modified by fact that molecular movement in nerves of mammal are about two miles a minute (Hall) but that the interposition of consciousness hinders this movement, makes it slower; that the vibratory movement in gray matter of brain is about nine pulsations a second (p. 11) although electrical excitation of motor nerves show that they conduct and muscles contract as rapidly as the electric current is interrupted; vibratory movement in nerves of special sense is much more rapid, though not as rapid as waves of sight or sound which stimulate them (p. 13) (Fechner's law p. 14). Then all these factors are modified by greater rapidity of all these movements caused by exercise of special parts in body and by new associations also so caused. The combinations of these myriad factors make up a part of fact known to constitute an individual; little has been done in showing how such a myriad of facts, in varied combinations and environments can explain all variations of individuals among the races of man and species among the classes of vertebrates = into this complex which represents, not wholly, the acquirements of Metaphysics

of to day the author injects, as a real fact a purely conceptual 'machinery' for the concept of motion and force is not a quality of the world of phenomena but simply 'symbols' evolved by educated men as the short hand expression of the varied facts as they have learned them; They are wonderful and enable man to marvellously describe what has happened and to predict what will happen in the world of phenomena; in short they are simply descriptive; they are postulated for the convenience of students; they "laws of science" are all of this nature. When the author making the geometrical ideal, which is the This MONISM moved, and moved only in conception, a "part and parcel" of physiological facts, treats the 'ideal' or concept, as a constituent

'Das Ich ist nicht aus Leib und Seele zusammengesetzt, sondern es ist eine bestimmte Entwicklungsstufe des Wesens, das von verschiedenem Standpunkt betrachtet in körperliches und geistiges Dasein auseinanderfällt.'—Wundt, *Vorlesungen über die Menschen- und Thierseele*, i. 293.

part of nature, he does on his, pseudo scientific side just what metaphysicians have done on their pseudo scientific side when they inject their concept of God, &c into nature; then as this book proves he gets just such a mystery in answer to his Why? as the metaphysicians have obtained in answer to their Why? In their mystery they hide God, In the authors mystery he hides force and motion = Moral: Scientific man must no more violate "positivism" "the limits of the knowable than the metaphysician =

We must await a more definite conception of "ether" "atom" "force" "motion" before we attempt to use them as "causative" we must look to the laws involved as "descriptive"

INTRODUCTION.

In no respect has the progress of physical science exercised a more profound influence upon philosophical thought than it has by proving an apparently quantitative relation between material changes and mental changes. It has always been known that there is qualitative relation. Even long before mankind suspected that the brain was in any way connected with thought, it was well understood that alcohol and other poisons exercised their sundry influences on the mind in virtue of influences which they exercised upon the body; and even the lowest savages must always have been aware that a blow on the head is followed by insensibility. But it was not until the rise of Physiology that this qualitative relation between corporeal changes and mental changes was gradually found to be a quantitative one—or that every particular change of mind had an exact and invariable counterpart in some particular change of body. It is needless for me to detail the successive steps in the long course of physiological discovery whereby this great fact has been established;

it is enough to say that the fact *is* established to the satisfaction of every physiologist.

Now, when once the relation between material changes and mental changes has been thus recognized as quantitative—or, which is the same thing, when once the association has been recognized as both invariable and exact—there arises the question as to how this relation is to be explained. Formally considered—or considered as a matter of logical statement irrespective of e relative probabilities which they may present, either to the minds of different individuals or to the general intelligence of the race—it appears to me that the possible hypotheses are here seven in number.

I. The mental changes may cause the material changes.

II. The material changes may cause the mental changes.

III. There may be no causation either way, because the association may be only a phenomenal association—the two apparently diverse classes of phenomena being really one and the same.

IV. There may be no causation either way, because the association may be due to a harmony pre-established by a superior mind.

V. There may be no causation either way, because the association may always be due to chance.

VI. There may be no causation either way, because the material order may not have any real existence at all, being merely an ideal creation of the mental order.

VII. Whether or not there be any causation either way, the association may be one which it is necessarily beyond the power of the human mind to explain.

So far as I can see, this list of possible answers to the question before us is exhaustive. I will next show why, in my opinion, the last four of them may be excluded *in limine.*

The suggestion of pre-established harmony (IV) merely postpones the question: it *assumes* a higher *mind* as adjusting correspondencies between known minds and animal bodies with respect to the activities of each; and, therefore, it either leaves untouched the ultimate question concerning the relation of mind (as such) to matter, or else it answers this question in terms of spiritualism (I).

The suggestion of chance (V) is effectually excluded by the doctrine of chances: even in any one individual mind, the association between mental changes and material changes is much too intimate, constant, and detailed to admit of any one reasonably supposing that it can be due only to chance.

The suggestion of pure idealism (VI) ultimately implies that the thinking Ego is itself the sole existence—a position which cannot, indeed, be

turned by any assault of logic; but one which is nevertheless too obviously opposed to common sense to admit of any serious defence; its immunity from direct attack arises only from the gratuitous nature of its challenge to prove a negative (namely, that the thinking Ego is *not* the sole existence), and this a negative which is necessarily beyond the region of proof.

Lastly, the suggestion that the problem is necessarily insoluble (VII) does not deserve to be regarded as an hypothesis at all; for to suppose that the problem is necessarily insoluble is merely to exclude the supposition of there being any hypothesis available.

In view of these several considerations, it appears to me that, although in a formal sense we may say there are altogether seven possible answers to the question before us, in reality, or for the purposes of practical discussion, there are now-a-days but three —namely those which head the above list, and which I will now proceed to consider.

I have named these three hypotheses in the order of their appearance during the history of philosophical thought. The earliest is the spiritualistic. As far back as we can trace the conceptions of primitive man, we meet with an unquestioning belief that it is his spirit which *animates* his body; and, starting from this belief as explanatory of the movements of his own body, he readily attributes movements elsewhere to analogous agencies—the theory of *animism* in

Nature thus becoming the universal theory in all early stages of culture. It also appears to be the theory most natural to our own children during the early years of their dawning intelligence, and would doubtless continue through life in the case of every individual human being, were he not subsequently instructed in the reasons which have led to its rejection by many other members of his race. These reasons, as already observed, have been furnished in their entirety only within comparatively recent times; not until Physiology was able to prove how intimate is the association between cerebral processes and mental processes did it become possible for materialism to turn the tables upon spiritualism, by simply inverting the hypothesis. Lastly, although the theory of Monism (III) may be traced back at least as far as the pantheistic thought of Buddhism, it there had reference to theology as distinguished from psychology. And even as presented in the writings of Bruno, Spinoza, and other so-called monists prior to the present century, the hypothesis necessarily lacked completeness on account of the absence of knowledge afterwards supplied by physiology. For Monism, in the sense of this term as I shall use it, may be metaphorically regarded as the child of the two pre-existing theories, Spiritualism and Materialism. The birth of this child was necessarily impossible before both its parents had reached mature age. On the one hand it was necessary that the theory of

Spiritualism should have outgrown its infancy as Animism, its childhood as Polytheism, before it entered upon its youth as Monotheism—or before it was able to supply material for the conception of Monism as a theory of cosmical extent. On the other hand, Materialism required to grow into the fullness of manhood, under the nursing influence of Science, before it was possible to engender this new-born offspring; for this offspring is new-born. The theory of Monism, as we are about to consider it, is a creature of our own generation; and it is only as such that I desire to call attention to the child. In order, however, to do this, I must follow the example of biographers in general, and begin by giving a brief sketch of both the parents.

CHAPTER I.

SPIRITUALISM.

In proceeding to consider the opposite theories of Spiritualism and Materialism, it is before all else desirable to be perfectly clear upon the point of theory whereby they are essentially distinguished. This point is that which is raised by the question whether mind is the cause or the effect of motion. Both theories are dualistic, and therefore agree in holding that there is causation as between mind and motion: they differ only in their teaching as to the direction in which the causation proceeds. Of course, out of this fundamental difference there arise many secondary differences. The most important of these secondary differences has reference to the nature of the eternal or self-existing substance. Both theories agree that there is such a substance; but on the question whether this substance be mental or material, the two theories give contradictory answers, and logically so. For, if mind as we directly know it (namely, in ourselves) is taken to be a cause of motion, within our experience mind is accredited with priority; and hence the inference that else-

where, or universally, mind is prior to motion. Furthermore, as motion cannot take place without something which moves, this something is likewise supposed to have been the result of mind : hence the doctrine of the creation by mind both of matter and of energy. On the other hand, the theory of materialism, by refusing to assign priority to mind as known directly in ourselves, naturally concludes that mind is elsewhere, or universally, the result of matter in motion—in other words, that matter in motion is the eternal or self-existing substance, and, as such, the cause of mind wherever mind occurs.

I may observe, in passing, that although this cosmical deduction from the theory of materialism is, as I have said, natural, it is not (as is the case with the corresponding deduction from the theory of spiritualism) inevitable. For it is logically possible that even though all known minds be the results of matter in motion, matter in motion may nevertheless itself be the result of an unknown mind. This, indeed, is the position virtually adopted by Locke in his celebrated controversy with the Bishop of Worcester. Having been taken to task by this divine for the materialistic tendency of his writings, Locke defends himself by denying the necessary character of the deduction which we are now considering. For example, he insists, 'I see no contradiction in it that the first eternal thinking being should, if he pleased, give to certain systems of created senseless matter, put together as he thinks fit, some degrees of sense, perception, and thought :

though, as I think, I have proved (lib. IV, ch. 10 and 14 &c.), it is no less than a contradiction to suppose matter (which is evidently in its own nature void of sense and thought) should be that eternal first thinking being.' Under this view, it will be observed, mind is supposed to have the ultimate priority, and thus to have been the original or creating cause of matter in motion, which, in turn, becomes the cause (or, at least, the conditional condition) of mind of a lower order. This view, however, need not detain us, inasmuch as it can only be held by those who, on grounds independent of philosophical thinking, already believe in mind as the First Cause or Eternal Being: this belief granted, there is, of course, an end of any question as between Spiritualism and Materialism. I have, therefore, only mentioned this possible phase of spiritualistic theory, in order to show that the theory of Materialism as applied to a human being does not *necessarily* involve an extension of that theory to the cosmos. But I hold this distinction as of no practical value: it merely indicates a logical possibility which no one would be likely to entertain except on grounds independent of those upon which the philosophical dispute between Spiritualism and Materialism must be confined.

Of more practical importance is the remark already made, namely, that the fundamental or diagnostic distinction between these two species of theory consists *only* in the views which they severally take on the question of causality. This remark is of practical importance, because in the debate between

spiritualists and materialists it is often lost sight of: nay, in some cases, it is even expressly ignored. Obviously, when it is either intentionally or unintentionally disregarded, the debate ceases to be directed to the question under discussion, and may then wander aimlessly over the whole field of collateral speculation. Throughout the present essay, therefore, the discussion will be restricted to the only topic which we have to discuss—namely, whether mind is the cause of motion, motion the cause of mind, or neither the cause of the other.

The view to be first considered—namely, that mind is the cause of motion—obviously has one great advantage over the opposite view: it supposes the causality to proceed from that which is the source of our idea of causality (the mind); not from that into which this idea has been read by the mind. Hence, it is so far less difficult to imagine that mental changes are the cause of bodily changes than *vice versa*; for upon this hypothesis we are starting at least from the substance of immediate knowledge, and not from the reflection of that knowledge in what we call the external world.

On the other hand, the theory of Spiritualism labours under certain speculative difficulties which appear to me overwhelming. The most formidable of these difficulties arises from the inevitable collision of the theory with the scientific doctrine of the conservation of energy. Whether or not we adopt the view that all causation of a physical kind is ultimately an expression of the fact that matter and energy

BOSTON MEDICAL
MAY 25 1911
LIBRARY.

are indestructible[1], it is equally certain that this indestructibility is a necessary condition to the occurrence of causation as natural. Therefore, if the mind of man is capable of breaking in as an independent cause upon the otherwise uniform system of natural causation, the only way in which it could do so would be by either destroying or creating certain *quanta* of either matter or energy or both. But to suppose the mind capable of doing any of these things would be to suppose that the mind is a cause in some other sense than a physical or a natural cause; it would be to suppose that the mind is a super-natural cause, or, more plainly, that all mental activity, so far as it is an efficient cause of bodily movement, is of the nature of a miracle.

This conclusion, which appears to me unavoidably implicated in the spiritualistic hypothesis, is not merely improbable *per se*, but admits of being shown virtually impossible if we proceed to consider the consequences to which it necessarily leads. A sportsman, for example, pulls the trigger

[1] In the opinion of some modern writers the indestructibility of matter and the conservation of energy are alone sufficient to explain all the facts of natural causation. 'For,' it is urged, 'if in any case similar antecedents did not determine similar consequents, on one or other of these occasions some *quantum* of force, or of matter, or of both, must have disappeared—or, which is the same thing, the law of causation cannot have been constant.' In a future chapter I shall have to recur to this view. Meanwhile I have only to observe that whether or not the law of causation is nothing more than a re-statement of the fact that matter and energy are indestructible, it is equally true that this fact is at least a necessary *condition* to the operation of that law.

of a gun, thereby initiating a long train of physical causes, which we may take up at the point where the powder is discharged, the shot propelled, and the bird dropped. Here the man's volition is supposed to have broken in upon the otherwise continuous stream of physical causes—first by modifying the molecular movements of his brain, so as to produce the particular co-ordination of neuro-muscular movement required to take accurate aim and to fire at the right moment; next by converting a quantity of gunpowder into gas, propelling a quantity of lead through the air; and finally, by killing a bird. Now, without tracing the matter further than this, let us consider how enormous a change the will of the man has introduced, even by so trivial an exercise of its activity. No doubt the first change in the material world was exceedingly slight: the molecular movement in the cortex of his brain was probably not more than might be dynamically represented by some small fraction of a foot-pound. But so intricate is the *nexus* of physical causality throughout the whole domain of Nature, that the intervention of even so minute a disturbance *ab extra* is obviously bound to continue to assert an influence of ever-widening extent as well as of everlasting duration. The heat generated by the explosion of the powder, the changed disposition of the shot, the death of the bird—leading to innumerable physical changes as to stoppage of many mechanical processes previously going on in the bird's body, loss of

animal heat, &c., and also to innumerable vital changes, leading to a stoppage of all the mechanical changes which the bird would have helped to condition had it lived to die some other death, to propagate its kind, and thus indirectly condition an incalculable number of future changes that would have been brought about by the ever increasing number of its descendants—these and an indefinite number of other physical changes must all be held to have followed as a direct consequence of the man's volition thus suddenly breaking in as an independent cause upon the otherwise uniform course of Nature. Now, I say that, apart from some system of pre-established harmony, it appears simply inconceivable that the order of Nature could be maintained at all, if it were thus liable to be interfered with at any moment in any number of points. And if the spiritualist takes refuge in the further hypothesis of a pre-established harmony between acts of human (not to add brute) volition and causes of a natural kind, we have only to observe that he thus lands himself in a speculative position which is practically identical with that occupied by the materialist. For the only difference between the two positions then is that the necessity which the materialist takes to be imposed on human volition by the system of natural causation, is now taken by the spiritualist to be equally imposed by a super-natural volition. The necessity which binds the human volition must be equally rigid in either

case; and therefore it can make no practical difference whether the source of it be regarded as natural or super-natural, material or mental: so that a man be fated to will only in certain ways—and this with all the rigour which belongs to causation as physical—it is scarcely worth while to dispute whether the predestination is of God or of Nature. There can be no question, however, that in this matter the possibility which I have supposed to be suggested by the spiritualist is more far-fetched than that which obviously lies to the hand of the materialist; and, moreover, that it too plainly wears the appearance of a desperate device to save a hollow theory.

It remains to add that this great difficulty against the spiritualistic theory has been revealed in all its force only during the present generation. Since the days of fetishism, indeed, the difficulty has always been an increasing one—growing with the growth of the perception of uniformity on the one hand, and of mechanical as distinguished from volitional agency on the other. But it was not until the correlation of all the physical forces had been proved by actual experiment, and the scientific doctrine of the conservation of energy became as a consequence firmly established, that the difficulty in question assumed the importance of a logical barrier to the theory of mental changes acting as efficient causes of material changes.

CHAPTER II.

MATERIALISM.

THIS is the theory which presents great fascination to the student of physical science. By laborious investigation physiology has established the fact beyond the reach of rational dispute, that there is a constant relation of concomitancy between cerebral action and thought. Within experience mind is found in constant and definite association with that highly complex and peculiar disposition of matter called a living brain. The size and elaboration of this peculiar structure throughout the animal kingdom stand in conspicuous proportion to the degree of intelligence displayed; while the impairment of this structure, whether by congenital defect, mutilation, anæmia, decay, or appropriate poison, entails corresponding impairment of mental processes. Thus much being established, no reasonable man can hesitate in believing the relation between neurosis and psychosis to be a constant and concomitant relation, so that the step between this, and regarding it as a causal relation, seems indeed a small one. For, in all matters of physical inquiry, whenever we

have proved a constant relation of concomitancy in a sequence *A B*, we call *A* the cause of *B*; and, therefore, it has been frequently said that the evidence of causation between neurosis and psychosis is recognized causation. Lastly, to fortify this hypothesis, materialists point to the doctrine of the conservation of energy, which is supplied by the science of physics as a sort of buttress in this matter to the teachings of physiology. For, as this doctrine compels us to believe that the chain of physical causation involved in cerebral processes can nowhere be broken or deflected *ab extra*, we are compelled to believe that the mental processes, which are correlatively associated with these cerebral processes, can nowhere escape from 'the charmed circle of the forces,' so that whether we look to the detailed teachings of physiology, or to the more general teachings of physics, we alike perceive that natural science appears to leave no locus for mind other than as a something which is in some way a result of motion.

The position of Materialism being thus at first sight so naturally strong, and having been in recent years so fortified by the labours of physiology, it is not surprising that in the present generation Materialism should be in the ascendant. It is the simple truth, as a learned and temperate author, speaking from the side of theology, has recently said, that

'Materialism is a danger to which individuals and societies will always be more or less exposed. The present generation,

however, and especially the generation which is growing up, will obviously be very especially exposed to it; as much so, perhaps, as any generation in the history of the world. Within the last thirty years the great wave of spiritualistic or idealistic thought .... has been receding and decreasing; and another, which is in the main driven by materialistic forces, has been gradually rising behind, vast and threatening. It is but its crest that we at present see; it is but a certain vague shaking produced by it that we at present feel; but we shall probably soon enough fail not both to see and feel it fully and distinctly[1].'

Such being the present importance of Materialism, I shall devote the present chapter to a consideration of this theory. Each of the points in the argument for Materialism which I have mentioned above admits, of course, of elaboration; but I think that their enumeration contains all that is essential to the theory in question. It now devolves upon us to inquire whether this theory is adequate to meet the facts.

And here I may as well at once give it as my own opinion that, of however much service the theory of Materialism may be, up to a certain point, it can never be accepted by any competent mind as a final explanation of the facts with which it has to deal. Unquestionable as its use may be as a fundamental hypothesis in physiology and medicine, it is wholly inadequate as a hypothesis in philosophy. That is to say, so long as there is a constant relation of concomitancy found by experience to obtain between neural processes and

[1] Professor Flint, *Antitheistic Theories*, p. 99.

mental processes, so long no harm can accrue to physical science by assuming, for its own purposes, that this relation is a causal one. But as soon as the question concerning the validity of this assumption is raised into the region of philosophy, it receives the answer that the assumption cannot be allowed to pass. For where the question becomes one not as to the *fact* of the association but as to its *nature*, philosophy, which must have regard to the facts of mind no less than to those of matter, must pronounce that the hypothesis is untenable; for the hypothesis of this association being one of causality acting from neurosis to psychosis, cannot be accepted without doing violence, not merely to our faculty of reason, but to our very idea of causation itself.

A very small amount of thinking is enough to show that what I call my knowledge of the external world, is merely a knowledge of my own mental modifications. A step further and I find that my idea of causation as a principle in the external world is derived from my knowledge of this principle in the internal world. For I find that my idea of force and energy in the external world is a mere projection of the idea which I have of effort within the region of my own consciousness; and therefore my only idea of causation is that which is originally derived from the experience which I have of this principle as obtaining among my own mental modifications.

If once we see plainly that the idea of causation

is derived from within, and that what we call the evidence of physical causation is really the evidence of mental modifications following one another in a definite sequence, we shall then clearly see, not merely that we have no evidence, but that we *can have* no evidence of causation as proceeding from object to subject. However cogent the evidence may appear at first sight to be, it is found to vanish like a cloud as soon as it is exposed to the light of adequate contemplation. In the very act of thinking the evidence, we are virtually denying its possibility as evidence; for as evidence it appeals only to the mind, and since the mind can only know its own sequences, the evidence must be presenting to the mind an account of its own modifications; from the mere fact, therefore, of its being accepted as thinkable, the evidence is proved to be illusory.

To uneducated men it appears an indisputable fact of 'common sense' that the colour of a flower exists as perceived in the flower, apart from any relation to the percipient mind. A physiologist has gone further into the thicket of things, and finds that the way is not so simple as this. He regards the quality of colour as necessarily related to the faculty of visual perception; does not suppose that the colour exists *as such* in the flower, but thinks of the something there as a certain order of vibrations which, when brought into relation with consciousness through the medium of certain nerves, gives rise to the perception experienced; and in

order to account for the translation into visual feeling of an event so unlike that feeling as is the process taking place in the flower, physiologists have recourse to an elaborate theory, such as that of Helmholtz or Hering. In other words, physiologists here fully recognize that colour, or any other thing perceived, only exists *as perceived* in virtue of a subjective element blending with an objective; the thing *as perceived* is recognized as having no existence apart from its relation to a percipient mind. Now, although physiologists are at one with the philosophers thus far, it is to be feared that very frequently they are in the same position as the above-mentioned 'uneducated men,' when it becomes needful to press still further into the thicket. For after having distinguished the necessity of recognizing a mind-element in any possible theory of perception, they forthwith proceed to disregard this element when passing from the ground of perception to that of thought. Although the ideas of matter, motion, causation, and so on, are themselves as much the offspring of a thinking mind, with its environment, as the perception of colour is a conceiving of the percipient mind, with *its* environment, these ideas are inconsistently supposed to stand for equivalent realities of the external world—to truly represent things that are virtually independent of any necessary relation to mind. Or, as the case has recently been well put by Principal Caird:

'You cannot get mind as an ultimate product of matter, for in the very attempt to do so you have already begun with

mind. The easiest step of any such inquiry involves categories of thought, and it is in terms of thought that the very problem you are investigating can be so much as stated. You cannot start in your investigations with a bare, self-identical, objective fact, stripped of every ideal element or contribution from thought. The least and lowest part of outward observation is not an independent entity—fact *minus* mind, and out of which mind may, somewhere or other, be seen to emerge ; but it is fact or object as it appears to an observing mind, in the medium of thought, having mind or thought as an inseparable factor of it. Whether there be such a thing as an absolute world outside of thought, whether there be such things as matter and material atoms existing in themselves before any mind begins to perceive or think about them, is not the question before us. If it were possible to conceive of such atoms, at any rate you, before you begin to make anything of them, must think them ; and you can never, by thinking about atoms, prove that there is no such thing as thought other than as an ultimate product of atoms. Before you could reach thought or mind as a last result you must needs eliminate from it the data of the problem with which you start, and that you can never do, any more than you can stand on your own shoulders or outstrip your own shadow . . . . In one word, to constitute the reality of the outward world—to make possible the minimum of knowledge, nay, the very existence for us of molecules and atoms—you must needs presuppose that thought or thinking self, which some would persuade us is to be educed or evolved from them. . . . To make thought a function of matter is thus, simply, to make thought a function of itself[1].'

From this reasoning there can be no escape ; and it is more rational for a man to believe that colour exists as such in a flower than, after having plainly seen that such cannot be the case, forthwith

[1] *Philosophy of Religion*, pp. 95, 99, and 101.

See pp 38 + 39

to disregard the teaching of this analogy, and to imagine that any apparent evidence of mind as a result of matter or motion can possibly be entertained as real evidence.

Remembering, then, that from the nature of this particular case it is as impossible for mind to prove its own causation as it is for water to rise above its source, it may still be well, for the sake of further argument, to sink this general consideration, and to regard such spurious evidence of causation as is presented by Materialism, without prejudice arising from its being *primâ facie* inadmissible.

Materialists, as already observed, are fond of saying that the evidence of causation from neurosis to psychosis is as good as such evidence can be proved to be in any other case. Now, quite apart from the general considerations just adduced to show that from the peculiar nature of this case there can here be no such evidence at all—quite apart from this, and treating the problem on the lower ground of the supposed analogy, it may be clearly shown that the statement is untrue. For a little thought will show that in point of fact the only resemblance between this supposed case of causation and all other cases of recognized causation, consists in the invariability of the correlation between cerebral processes and mental processes; in all other points the analogy fails. For in all cases of recognized causation there is a perceived *connexion* between the cause and the effect; the antecedents are physical, and the consequents are physical. But in

the case before us there is no perceived, or even conceivable, connexion between the cause and the effect; for the causes are supposed to be physical and the effects mental. And the antithesis thus posited is alone sufficient to separate *toto coelo* the case of causation supposed from that of all cases of causation recognized. From the singularly clear and well-balanced statement of this subject given by Professor Allman in his Presidential Address before the British Association, I may here fitly quote the following :—

'If we could see any analogy between thought and any one of the admitted phenomena of matter, we should be justified in the first of these conclusions (i. e. that of Materialism) as the simplest, and as affording a hypothesis most in accordance with the comprehensiveness of natural laws; but between thought and the physical phenomena of matter there is not only no analogy, but no conceivable analogy; and the obvious and continuous path which we have hitherto followed up in our reasonings from the phenomena of lifeless matter through those of living matter here comes suddenly to an end. The chasm between unconscious life and thought is deep and impassable, and no transitional phenomena can be found by which, as by a bridge, we may span it over[1].'

And, not unduly to multiply quotations, I shall only adduce one more from another of the few eminent men of science who have seen their way clearly in this matter, and have expressed what they have seen in language as clear as their vision. Professor Tyndall writes :—

[1] British Association Report, 1879, p. 28.

'The passage from the physics of the brain to the corresponding facts of consciousness is unthinkable. Granted that a definite thought and a definite molecular action in the brain occur simultaneously, we do not possess the intellectual organ, nor apparently any rudiment of the organ, which would enable us to pass, by a process of reasoning, from the one phenomenon to the other. They appear together but we do not know why. Were our minds and senses so expanded, strengthened, and illuminated, as to enable us to see and feel the very molecules of the brain; were we capable of following all their motions, all their groupings, all their electrical discharges, if such there be; and were we intimately acquainted with the corresponding states of thought and feeling, we should be as far as ever from the solution of the problem. How are these physical processes connected with the facts of consciousness? The chasm between the two classes of phenomena would still remain intellectually impassable [1].'

Next, in all cases of recognized causation there is a perceived *equivalency* between cause and effect, such equivalency belonging to the very essence of that in which we conceive causation to consist. But as between matter and motion on the one side, and feeling and thought on the other, there can be no such equivalency conceivable. That no such equivalency is conceivable may be rendered apparent on grounds of Materialism itself. For Materialism is bound to accept the fundamental doctrine of modern physics—that, viz. as to the conservation of energy—and therefore it becomes evident that unless we assimilate thought with energy, there is no possibility of a causal relation, or a relation of equivalency, as obtaining between the one and the

[1] British Association Report, 1868. Trans. of Sections, p. 5.

other. For however little we may know about brain-dynamics, materialists, at least, must take it for granted that in every process of cerebration the matter and force concerned are indestructible quantities, and therefore that all their possible equations are fully satisfied, could we but follow them out. Howsoever complex we may suppose the flux and reflux of forces to be within the structure of a living brain, it is no more possible for any one of the forces concerned to escape from brain to mind, than it would be for such an escape to occur in a steam-engine or a watch; the doctrine of the conservation of energy forms an insuperable bar to the supposition that any equation in the region of physics can be left unsatisfied, in order to pass over and satisfy some other equation in the region of psychics.

Of course in saying this I am aware that some of the more clear-sighted of the materialists have plainly perceived this difficulty in all its magnitude, and so have felt that unless it can be met, any theory of Materialism must necessarily contain a radical contradiction of principles. Some few materialists have therefore sought to meet the difficulty in the only way it can be met, viz. by boldly asserting the possibility of thought and energy being transmutable. On this view thought becomes a mode of motion, and takes its rank among the forces as identical in nature with heat, light, electricity, and the rest. But this view is also inherently impossible. For suppose, as a matter of argument,

that physiologists should discover a mechanical equivalent of thought, so that we might estimate the value of a calculation in thermal units, or the 'labour of love' in foot-pounds: still we should not be out of our difficulties; we should only have to cut a twist of flax to find a lock of iron. For by thus assimilating thought with energy, we should in no wise have explained the fundamental antithesis between subject and object. The fact would remain, if possible, more unaccountable than ever, that mind should present absolutely no point of real analogy with motion. Involved with the essential idea of motion is the idea of extension; suppress the latter and the former must necessarily vanish, for motion only means transition in space of something itself extended. But thought, as far as we can possibly know it, is known and distinguished by the very peculiarity of not having extension. Therefore, even if we were to find a mechanical equivalent of thought, thought would still not be proved a mode of motion. On the contrary, what would be proved would be that, in becoming transformed into thought, energy had ceased to be energy; in passing out of its relation to space it would cease to exist as energy, and if it again passed into that relation it would only be by starting *de novo* on a new course of history. Therefore the proof that thought has a mechanical equivalent would simply amount to the proof, not that thought *is* energy, but that thought *destroys* energy. And if Materialism were to prove this,

Materialism would commit suicide. For if once it were proved that the relation of energy to thought is such that thought is able to absorb or temporarily to annihilate energy, the whole argument of Materialism would be inverted, and whatever evidence there is of causation as between mind and matter would become available in all its force on the side of Spiritualism. This seems plain, for if it even were conceivable—which most distinctly it is not—that a motor could ever become a motive, and so pass from the sphere of dynamics into the sphere of consciousness, the fact would go to prove, not that the motor was the cause of the motive, but rather that the motive was the cause of destroying the motor; so that at that point the otherwise unbroken chain of physical sequences was interrupted by the motive striking in upon it, and in virtue of the mysterious power supposed to have been proved by physiology, cancelling the motor, so allowing the nerve-centre to act as determined by the motive.

Of course I wish it to be understood that I believe we are here dealing with what I may call, in perhaps suitably contradictory terms, inconceivable conceptions. But let it be remembered that I am not responsible for this ambiguity; I am only showing what must be the necessary outcome of analysis if we begin by endeavouring phenomenally to unite the most antithetical of elements—mind and motion. Materialism, at least, will not be the gainer should it ever be proved that in the complex operations

of the brain a unique exception occurs to the otherwise universal law of the conservation of energy in space.

We may, therefore, quit the suggestion that the difficulty experienced by Materialism of showing an equivalency between neurosis and psychosis can ever be met by assuming that some day mental processes may admit of being expressed in terms of physical. But before leaving this difficulty with regard to equivalency, I may mention one other point that seems to me of importance in connexion with it. I have already said that if we suppose causation to proceed from brain to mind, we must suppose this essential requirement of equivalency between the cerebral causes and the mental effects to be satisfied somewhere. But where are we to say that it is satisfied? Even if we suppose that thought has a mechanical equivalent, and that causation proceeds in the direction from energy to thought, still, when we have regard to the supposed effects, we find that even yet they bear no kind of equivalency to their supposed causes. The brain of a Shakespeare probably did not, as a system, exhibit so much energy as does the brain of an elephant; and the cerebral operations of a Darwin may not have had a very perceptibly larger mechanical equivalent than those of a banker's clerk. Yet in the world of thought the difference between our estimate of the results, or 'work done,' in these cases is such as to drive all ideas of equivalency to the winds.

Doubtless, a materialist will answer that it is not fair to take our estimate of 'work done' in the world of mind as the real equivalent of the energy supposed to have passed over from the world of motion, seeing that our estimate is based, not on the quantitative amount of thought produced, but rather on its qualitative character with reference to the social requirements of the race. But to this it is enough to answer that we have no means of gauging the quantity of thought produced other than by having regard to *its* effects in the world of mind, and this we cannot do except by having regard to its qualitative character. Many a man, for instance, must have consumed more than a thousand times the brain-substance and brain-energy that Shelley expended over his 'Ode to a Skylark,' and yet as a result have produced an utterly worthless poem. Now, in what way are we to estimate the 'work done' in two such cases, except by looking to the relative effects produced in the only region where they are produced, viz. in the region of mind? Yet, when we do so estimate them, what becomes of the evidence of equivalency between the physical causes and the psychical effects?

Now if thus, whether or not we try to form an estimate, it is impossible to show any semblance of equivalency between the supposed causes and the alleged effects, how can any one be found to say that the evidence of causation is here as valid as it is in any other case? The truth rather is

that the alleged effects stand out of every relation to the supposed causes, with the exception only of being associated in time.

There still remains one other enormous difficulty in the way of the theory of Materialism; it necessarily embodies the theory of *conscious automatism*, and is therefore called upon to explain why consciousness and thought have ever appeared upon the scene of things at all. That this is the necessary position of Materialism is easily proved as follows. We have already seen that Materialism would commit suicide by supposing that energy could be transmuted into thought, for this would amount to nothing short of supposing the destruction of energy as such; and to suppose energy thus destructible would be to open wide the door of spiritualism. Materialism, therefore, is logically bound to argue in this way: We cannot conceive of a conscious idea, or mental change, as in any way affecting the course of a cerebral reflex, or material change; while, on the other hand, our knowledge of the conservation of energy teaches us as an axiom that the cerebral changes must determine each other in their sequence as in a continuous series. Nowhere can we suppose the physical process to be interrupted or diverted by the psychical process; and therefore we must conclude that thought and volition really play no part whatever in determining action. Thoughts and feelings are but indices which show in the mirror of the mind certain changes that are proceeding

in the matter of the brain, and are as inefficient in influencing those changes as the shadow of a cloud is powerless to direct the movements of that of which it is the shadow.

But when Materialism reaches, in a clear and articulate manner, this inference as a conclusion necessary from its premises, it becomes opposed at once to common sense and to the requirements of methodical reason. It becomes opposed to common sense because we all feel it is practically impossible to believe that the world would now have been exactly what it is even if consciousness, thought, and volition had never appeared upon the scene—that railway trains would have been running filled with mindless passengers, or that telephones would have been invented by brains that could not think to speak to ears that could not hear. And the conclusion is opposed to the requirements of methodical reason, because reason to be methodical is bound to have an answer to the question that immediately arises from the conclusion. This question simply is, Why have consciousness, thought, and volition ever been called into existence; and why are they related, as they are related, to cerebral action? Materialism, by here undertaking to prove that these things stand uselessly isolated from all other things, is bound to show some reason why they ever came to be, and to be what they are. For observe, it is not merely that these things exist in a supposed unnecessary relation to all other things;

Earth 38439

* all this and following several pages outside the limits of science -

the fact to be explained is that they exist in a most intimately woven and invariable connexion with certain highly complex forms of organic structure and certain highly peculiar distributions of physical force. Yet these unique and extraordinary things are supposed by automatism to be always results and never causes; in the theatre of things they are supposed to be always spectators and never actors; in the laboratory of life they are supposed to be always by-products; and therefore in the order of nature they are supposed to have no *raison d'être*. Such a state of matters would be accountable enough if the stream of mental changes were but partly, occasionally, and imperfectly associated with the stream of material changes; but as the association is so minute, invariable, and precise, the hypothesis of the association being merely accidental, or *not requiring explanation*, becomes, at the bar of methodical reasoning, self-convicted of absurdity.

The state of the case, then, simply is that two distinct facts stand to be explained by the theory of conscious automatism—first, why psychosis should ever have been developed as a mysterious appendage to neurosis; and, secondly, why the association between these things should be so intimate and precise. Assuredly, on the principles of evolution, which materialists at least cannot afford to disregard, it would be a wholly anomalous fact that so wide and general a class of phenomena as those of mind should have become developed in

constantly ascending degrees throughout the animal kingdom, if they are entirely without use to animals. If psychosis is, as supposed, a function of neurosis, the doctrine of natural selection alone would forbid us to imagine that this function differs from all other functions in being itself functionless. If it would be detrimental to the theory of natural selection that any one isolated structure—such as the tail of a rattlesnake—should be adapted to perform a function useless to the animal possessing it, how utterly destructive of that theory would be the fact that all the phenomena of mind have been elaborated as functions of nerve-tissue without any one of them ever having been of any use either to the individual or to the species. And the difficulty that thus arises is magnified without limit when we remember that the phenomena of mind are invariable in their association with cerebral structure, grade for grade, and process for process.

It is of no argumentative use to point to the fact that many adaptive movements in animals are performed by nerve-centres apart from any association with consciousness or volition, because all the facts on this head go to prove that consciousness and volition come in most suggestively just where adaptive movements begin to grow varied and complex, and then continue to develop with a proportional reference to the growing variety and complexity of these movements. The facts, therefore, irresistibly lead to the

conclusion (if we argue here as we should in the case of any other function) that consciousness and volition are functions of nerve-tissue superadded to its previous functions, in order to meet new and more complex demands on its powers of adaptation.

Neither is it of any argumentative use to point to the fact that adaptive actions which originally are performed with conscious volition may by practice come to be performed without conscious volition. For it is certain that no adaptive action of quite a novel kind is ever performed from the first without consciousness of its performance, and therefore, although it is true that by repetition its performance may become mechanical or unconscious, this does not prove that consciousness was without use in producing the adaptive action. It only proves that after a nervous mechanism has been elaborated by the help of consciousness, consciousness may be withdrawn and leave the finished mechanism to work alone; the structure having been completed, the scaffolding necessary to its completion may be removed.

But passing over this difficulty which the theory of conscious automatism seems bound to encounter in its collision with the theory of natural selection, the most insuperable of all its difficulties arises from the bare fact, which it cannot explain, that conscious intelligence exists, and exists in the most intimate relation with one peculiar kind of material structure. For automatists must concede

that the evidence of causation in the region of mind is at least as cogent as it is in the region of matter, seeing that the whole science of psychology is only rendered possible as a science by the fundamental fact of observation that mental antecedents determine mental consequents. Therefore, if we call a physical sequence *A*, *B*, *C*, and a mental sequence *a*, *b*, *c*, automatists have to explain, not merely why there should be such a thing as a mental sequence at all, but also why the sequence *a*, *b*, *c* should always proceed, link for link, with the sequence *A*, *B*, *C*. It clearly is no answer to say that the sequence *A*, *B*, *C* implies the successive activity of certain definite nerve-centres *A'*, *B'*, *C'*, which have for their subjective effects the sequence *a*, *b*, *c*, so that whenever the sequence *A*, *B*, *C* occurs the sequence *a*, *b*, *c* must likewise occur. This is no answer, because it merely restates the hypothesis of automatism, and begs the whole question to be discussed. What methodical reason demands as an answer is simply *why* the sequence *A*, *B*, *C*, even though we freely grant it due to the successive activity of certain definite nerve-centres, should be attended by the sequence *a*, *b*, *c*. Reason perceives clearly enough that the sequence *a*, *b*, *c* belongs to a wholly different category from the sequence *A*, *B*, *C*, the one being immediately known as a process taking place in a something which is without extension or physical properties of any kind, and the other taking place in a

something which when translated by the previous something, we recognize as having extension and the other antithetical properties which we class together as physical. There would of course be no difficulty if the sequence *A*, *B*, *C* continued through any amount of complexity in the same conceivable category of being; so that there would be nothing actually inconceivable in cerebral sequence—changes running through *D*, *E*, *F*, &c., to an extent sufficient to cause *un*conscious automatism of any degree of complexity. But that which does require explanation from automatists is why automatism should have become associated with consciousness, and this so intimately that every change in the sequence *A*, *B*, *C*, &c., is accompanied by a particular and corresponding change in the sequence *a*, *b*, *c*, &c. Thus, to take a definite illustration, if on seeing the sun I think of a paper on solar physics, and from this pass to thinking of Mr. Norman Lockyer, and from this to speculating on the probability of certain supposed elements being really compounds, there is here a definite causal connexion in the sequence of my *thoughts*. But it is the last extravagance of absurdity to tell me that the accompanying causal sequences going on in my brain happen to have exactly corresponded to the sequences which were taking place in the mind, the two trains of sequences being each definite and coherent in themselves, and yet each proceeding link for link in lines parallel with the other. Without some theory

of pre-established harmony—which, of course, it is no part of automatism to entertain—it would, on the doctrine of chances alone, be impossible to suppose that the causal sequences in the brain always happen to be just those which, by running link for link with another set of causal sequences taking place in the mind, enable both the series to be definite and coherent in themselves. Therefore, before reason can allow the theory of automatism to pass, it must be told how this wonderful fact of parallelism is to be explained. There must be *some* connexion between the intrinsically coherent series *A*, *B*, *C* and the no less intrinsically coherent sequence *a*, *b*, *c*, which may be taken as an explanation why they coincide each to each. What is this connexion? We do not know; but we have now seen that, whatever it is, it cannot be an ordinary causal connexion—first, because the doctrine of the conservation of energy makes it incumbent on us to believe that the procession of physical cause and effect is complete within the region of brain—a closed circle, as it were, from which no energy can, without argumentative suicide, be supposed to escape into the region of mind; and next, because, even were this difficulty disregarded, it is unaccountable that the causative influence (whatever it is supposed to be), which passes over from the region of physics into that of psychics, should be such as to render the psychical series coherent in itself, when on the physical side the series must be

determined by purely physical conditions, having no reference whatsoever to psychical requirements.

Thus it is argumentatively impossible for Materialism to elude the necessity of explaining the kind of connexion which it supposes to subsist between neurosis and psychosis; and forasmuch as the above considerations clearly show this connexion cannot be accepted as one of ordinary causality without some answer being given to the questions which reason has to ask, Materialism must be ruled out of court if she fails to respond to the demand. But it is no less clearly impossible that she can respond to the demand, and therefore at the bar of Philosophy Materialism must be pronounced, for this as well as for the reasons previously cited, conspicuously inadequate to account for the facts.

CHAPTER III.

MONISM.

WE have seen, then, that both the alternative theories of Spiritualism and Materialism are found, when carefully examined, to be so beset with difficulties of a necessary and fundamental kind, that it is impossible to entertain either without closing our eyes to certain contradictions which they severally and inherently present. We may, indeed, go even further than this, and affirm that to suppose mind the cause of motion or motion the cause of mind is equally to suppose that which in its very nature as a supposition is neither true nor untrue, but nonsensical. For, as Prof. Clifford has said in his essay on *Body and Mind*,—

'It may be conceived that, at the same time with every exercise of volition, there is a disturbance of the physical laws; but this disturbance, being perceptible to me, would be a physical fact accompanying the volition, and could not be volition itself, which is not perceptible to me. Whether there is such a disturbance of the physical laws or no is a question of fact to which we have the best of reasons for giving a negative answer; but the assertion that another man's

volition, a feeling in his consciousness which I cannot perceive, is part of the train of physical facts which I may perceive,—this is neither true nor untrue, but nonsense; it is a combination of words whose corresponding ideas will not go together[1].'

And seeing that the correlatives are in each case the same, it is similarly 'nonsense' to assert the converse proposition: or, in other words, it is equally nonsense to speak of mental action causing cerebral action, or of cerebral action causing mental action—nonsense of the same kind as it would be to speak of the *Pickwick Papers* causing a storm at sea, or the eruption of a volcano causing the forty-seventh proposition in the first book of Euclid.

We see, then, that two of the three possible theories of things contain the elements of their own destruction: when carefully analyzed, both these theories are found to present inherent contradictions. On this account the third, or only alternative theory, comes to us with a large antecedent presumption in its favour. For it comes to us, as it were, on a clear field, or with the negative advantage of having no logical rivals to contend with. The other two suggestions having been weighed in the balance and found wanting, we are free to look to the new-comer as quite unopposed. This new-comer must, indeed, be interrogated as carefully as his predecessors, and, like them, must be judged upon his own merits. But as he constitutes our last possible hope of solving the question which he professes himself able

[1] *Lectures and Essays*, vol. ii. pp. 56–7.

to solve, the absolute failure of his predecessors entitles him to a patient hearing. By the method of exclusion his voice is now the only voice that remains to be heard, and unless it can speak to better purpose than the others, we shall have no alternative but to abandon the facts as inexplicable, or to confess that it is necessarily impossible for the human mind ever to arrive at any theory of things.

Before proceeding to state or to examine this third and last of the suggested theories, it is desirable—in order still further to define its *status a priori*—that I should exhibit the reason why the two other suggestions have necessarily failed. For to my mind it is perfectly obvious that this reason is to be found, and found only, in the fact that they are both dualistic. The inherent, the fatal, and the closely similar difficulties which attach to both the dualistic theories, attach to them merely because they *are* dualistic. The 'nonsense' of each of them is really identical, and arises only because they both make the same irrational attempt to find more in the effect than they have put into the cause. In other words, both the dualistic theories suppose that the physical chains of causation is complete within itself, and that the mental chain is also complete within itself: yet they both proceed to the contradiction that one of these chains is able to allow some of its causal influence to escape, as it were, in order to constitute the other chain. It makes no difference, in point of

logic, whether such an escape is supposed to take place from the physical chain (materialism) or from the mental chain (spiritualism): in either case the fundamental principle of causality is alike impugned —the principle, that is, of there being an equivalency between cause and effect, such that you cannot get more out of your effect than you have put into your cause. Both these dualistic theories, although they take opposite views as to which of the two chains of causation is the cause of the other, nevertheless agree in supposing that there *are* two chains of causation, and that one of them *does* act causally upon the other: and it is in this matter of their common consent that they both commit suicide. Every process in the physical sphere must be supposed to have its equations satisfied within that sphere: else the doctrine of the conservation of energy would be contravened, and thus the causation contemplated could no longer be contemplated as physical. Similarly, every process in the mental sphere must be supposed to have its equations satisfied within that sphere: else the causation contemplated could no longer be contemplated as mental: some of the equations must be supposed *not* to have been satisfied within the mental sphere, but to have been carried over into the physical sphere—thus to have either created or destroyed certain quantities of energy within that sphere, and thus, also, to have introduced elements of endless confusion into the otherwise orderly system of Nature.

From this vice of radical contradiction, to which both the dualistic theories are committed, the monistic theory is free. Moreover, as we shall immediately find, it is free to combine the elements of truth which severally belong to both the other theories. These other theories are each concerned with what they see upon different sides of the same shield. The facts which they severally receive they severally report, and their reports appear to contradict each other. But truth can never be really in contradiction with other truth; and it is reserved for Monism, by taking a simultaneous view of both sides, to reconcile the previously apparent contradictions. For these and other reasons, which will unfold themselves as we proceed, I fully agree with the late Professor Clifford where he says of this theory— 'It is not merely a speculation, but is a result to which all the greatest minds that have studied this question (the relation between body and mind) in the right way have gradually been approximating for a long time.' This theory is, as we have already seen, that mental phenomena and physical phenomena, although apparently diverse, are really identical.

If we thus unite in a higher synthesis the elements both of spiritualism and of materialism, we obtain a product which satisfies every fact of feeling on the one hand, and of observation on the other. We have only to suppose that the antithesis between mind and motion—subject and object—is itself phenomenal or apparent: not absolute or real. We

have only to suppose that the seeming duality is relative to our modes of apprehension: and, therefore, that any change taking place in the mind, and any corresponding change taking place in the brain, are really not two changes, but one change. When a violin is played upon we hear a musical sound, and at the same time we see a vibration of the strings. Relatively to our consciousness, therefore, we have here two sets of changes, which appear to be very different in kind; yet we know that in an absolute sense they are one and the same: we know that the diversity in consciousness is created only by the difference in our mode of perceiving the same events—whether we see or whether we hear the vibration of the strings. Similarly, we may suppose that a vibration of nerve-strings and a process of thought are really one and the same event, which is dual or diverse only in relation to our modes of perceiving it.

Or, to take another and a better illustration, in an Edison lamp the light which is emitted from the burner may be said indifferently to be caused by the number of vibrations per second going on in the carbon, or by the temperature of the carbon; for this rate of vibration could not take place in the carbon without constituting that degree of temperature which affects our eyes as luminous. Similarly, a train of thought may be said indifferently to be caused by brain-action or by mind-action; for, *ex hypothesi*, the one could not take place without the other. Now when we contemplate the phenomena

of volition by themselves, it is as though we were contemplating the phenomena of light by themselves: volition is produced by mind in brain, just as light is produced by temperature in carbon. And just as we may correctly speak of light as the cause, say, of a photograph, so we may correctly speak of volition as the cause of bodily movement. That particular kind of physical activity which takes place in the carbon could not take place without the light which causes a photograph; and, similarly, that particular kind of physical activity which takes place in the brain could not take place without the volition which causes a bodily movement. So that volition is as truly a cause of bodily movement as is the physical activity of the brain; seeing that, in an absolute sense, the cause is one and the same. But if we once clearly perceive that what in a relative sense we know as volition is, in a similar sense, the cause of bodily movement, we terminate the question touching the freedom of the will. It thus becomes a mere matter of phraseology whether we speak of the will determining, or being determined by, changes going on in the external world; just as it is but a matter of phraseology whether we speak of temperature determining, or being determined by, molecular vibration. All the requirements alike of the free-will and of the bond-will hypotheses are thus satisfied by a synthesis which comprises them both. On the one hand, it would be as impossible for an *un*conscious automaton to do the work or to perform the adjustments of a

conscious agent, as it would be for an Edison lamp to give out light and cause a photograph when not heated by an electric current. On the other hand, it would be as impossible for the will to originate bodily motion without the occurrence of a strictly physical process of cerebration, as it would be for light to shine in an Edison lamp which had been deprived of its carbon-burner.

The great advantage of this theory is, that it supposes only one stream of causation, in which both mind and motion are simultaneously concerned. The theory, therefore, escapes all the difficulties and contradictions with which both spiritualism and materialism are beset. Thus, motion is supposed to be producing nothing but motion; mind-changes nothing but mind-changes—both producing both simultaneously: neither could be what it is without the other, because without the other neither could be the cause which in fact it is. Impossible, therefore, is the supposition of the materialist that consciousness is adventitious, or that in the absence of mind the changes of the brain could be what they are; for it belongs to the very causation of these movements that they should have a mental side. And equally impossible is the supposition of the spiritualist that the cerebral processes are adventitious, or that in the absence of brain the changes of the mind could be what they are; for it belongs to the very causation of these changes that they should have a material side. Furthermore, the use of mind to animals and to men is thus rendered

apparent; for intelligent volition is thus shown to be a true cause of adjustive movement, in that the cerebration which it involves could not otherwise be possible: the causation would not otherwise be complete.

"Whatever volition can do in the way of creating motion out of other forms of force, and generally of evolving force from a latent into a visible state, can be done by many other causes. Chemical action for instance, electricity, heat; the mere presence of a gravitating body; all these are causes of mechanical motion on a far larger scale than any volitions which experience presents to us: and in most of the effects thus produced the motion given to one body by another, is not, as in the ordinary cases of mechanical ~~re~~ action, motion that has first been given to that other by some third body. The phenomenon is not a mere passing on of mechanical motion, but a creation of it out of a force previously latent or manifesting itself in some other form. Volition therefore regarded as an agent in the material universe, has no exclusive privilege of origination; all that it can originate is also originated by other transforming agents. + + + + + + + We know that this force comes from an external source, the chemical action of the food and air.

CHAPTER IV.

THE WORLD AS AN EJECT.

In the Introduction to this essay I have sought to show that there are, for the purposes of practical discussion, but three theories of the World of Being. There is, first, the theory of Materialism, which supposes matter in motion to be the ultimate or self-existing Reality, and, therefore, the cause of mind. Next, there is the theory of Spiritualism, which supposes mind to be the ultimate Reality, and, therefore, the cause of matter in motion. Lastly, there is the theory of Monism which supposes matter in motion to be substantially identical with mind, and, therefore, that as between mind and matter in motion there is no causal relation either way. In the foregoing chapters I have considered these three theories, and argued that of them the last-mentioned is the only one which satisfies all the facts of feeling on the one hand, and of observation on the other. The theory of Monism alone is able to explain, without inherent contradiction, the phenomena both of the subjective and objective spheres.

It is my present purpose to extend the considerations already presented. Assuming the theory of Monism, I desire to ascertain the result to which it will lead when applied to the question whether we ought to regard the external world as of a character mental or non-mental. As observed in my Rede Lecture (*supra*, p. 33), this question has already been considered by the late Professor Clifford, who decided that on the monistic theory the probability pointed towards the external world being of a character non-mental; that, although the whole universe is composed of 'mind-stuff,' the universe as a whole is mindless. This decision I then briefly criticized; it is now my object to contemplate the matter somewhat more in detail.

I will assume, on account of reasons previously given, that when we speak of matter in motion we do not at all know what it is that moves, nor do we know at all what it is that we mean by motion. Therefore if, as unknown quantities, we call matter a and motion b, all we are entitled to affirm is that $a+b=z$, where z is a known quantity, or mind. Obversely stated, we may say that the known quantity z is capable of being resolved into the unknown $a+b$. But, inasmuch as both a and b are unknown, we may simplify matters by regarding their sum as a single unknown quantity x, which we take to be substantially identical with its obverse aspect known as z.

Here, then, are our data. The theory of Monism

teaches that what we perceive as matter in motion, x, is the obverse of what we know as mind, z. What, then, do we know of z? In the first place, we well know that this is the only entity with which we are acquainted, so to speak, at first hand; all our knowledge of x (which is the only other knowledge we possess) is possible only in so far as we are able to translate it into terms of z. In the next place, we know that z is itself an entity of the most enormous complexity. Standing as a symbol of the whole range of individual subjectivity, it may be said to constitute for each individual the symbol of his own personality—or the sum total of his conscious life. Now each individual knows by direct knowledge that his conscious life is, as I have said, of enormous complexity, and that numberless ingredients of feeling, thought, and volition are therein combined in numberless ways. Therefore the symbol z may be considered as the sum of innumerable constituent parts, grouped *inter se* in numberless systems of more or less complexity.

From these considerations we arrive at the following conclusions. The theory of Monism teaches that all z is x; but it does not, therefore, necessarily teach that all x is z. Nevertheless, it does teach that if all x is not z, this must be because x is z, *plus* something more than z, as a little thought will be sufficient to show. Thus, the four annexed diagrams exhaust the logical possibilities of any case, where the question is as to the inclusion or exclusion of one quantity by another. In Fig. 1

the two quantities are coincident; in Fig 2 the one is wholly included by the other; in Fig. 3 it is partially included; and in Fig. 4 wholly excluded. Now in the present case, and upon the data supplied, the logical possibilities are exhausted by Figs. 1 and 2. For, upon these data, Figs. 3 and 4 obviously represent logical impossibilities; no part of Mind can, according to these data, stand outside

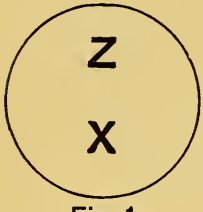


Fig. 1

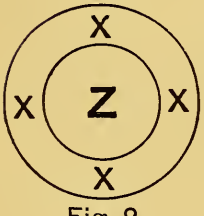


Fig. 2

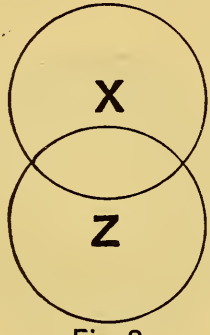


Fig. 3

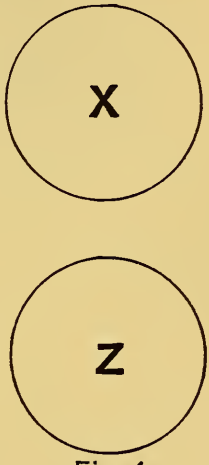


Fig. 4

the limits of Matter and Motion. Therefore, if the Ego is not coincident with the Non-ego (or if all x is not z, as in Fig. 1), this can only be because the Ego is less extensive than the Non-ego (or because x is z *plus* something more than z, as in Fig. 2).

Of these two logical possibilities Idealism, in its most extreme form, may adopt the first. For Idealism in this form may hold that apart from the Ego there is no external world; that outside of z there is no x; that the only *esse* is the *percipi*.

But, as very few persons nowadays are prepared to go the length of seriously maintaining that in actual fact there is no external world save in so far as this is perceived by the individual mind, I need not wait to consider this possibility. We are thus

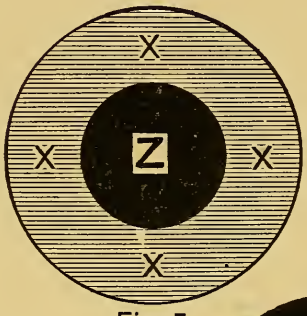


Fig. 5

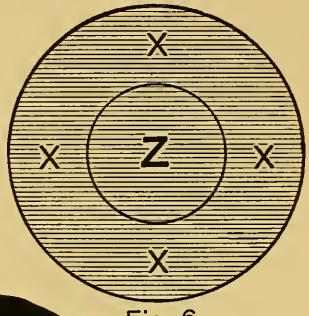


Fig. 6

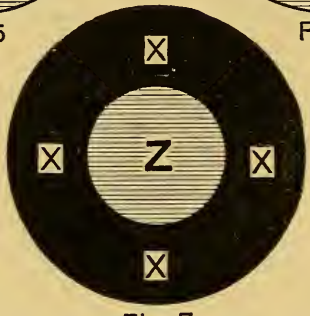


Fig. 7

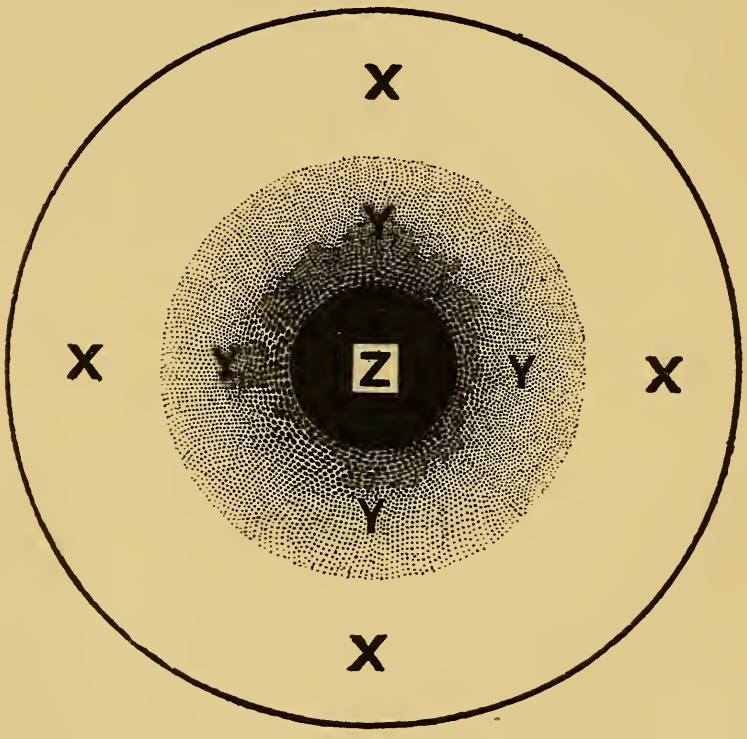
practically shut up to a consideration of the possibility marked 2.

The theory of Monism, then, teaches that x is z *plus* something more than z; and therefore it becomes a matter of great moment to consider the probable nature of the overplus. For it obviously does not follow that because x is greater than z in a logical sense, therefore x must be greater than z in a psychological sense. Save upon the theory of

Idealism (with which Monism is not specially concerned) the amount (whatever it may be) wherein x is greater than z, may not present any psychological signification at all. We may find that the surface of our globe is considerably larger than that of the dry land, and yet it may not follow that the mental-life to be met with in the sea is psychologically superior to that which occurs on dry land. If, therefore, we represent by comparative shading degrees of psychological excellence, it is evident that the theory of Monism must entertain the three possibilities indicated diagrammatically in Figs. 5, 6, and 7. It makes no difference what the comparative areas of x and z may be, or whether x be uniformly shaded throughout its extent. All we have so far to notice is that the fact of logical inclusion does not necessarily carry with it the implication of psychological superiority.

Next we must notice that besides our own subjectivities, we have cognizance of being surrounded by many other inferred subjectivities more or less like in kind (i. e. other human minds); and also yet many other inferred subjectivities more or less unlike, but all inferior (i. e. the minds of lower animals, young children, and idiots). Following Clifford, I will call these inferred subjectivities by the name of ejects, and assign to them the symbol y. Thus, in the following discussion, x = the objective world, y = the ejective world, and z = subjective world. Now, the theory of Monism supposes that x, y, and z are all alike in kind, but present no definite

teaching as to how far they may differ in degree. We may, however, at once allow that between the psychological value of z and that of y there is a wide difference of degree; and also that, while the value of z is a fixed quantity, that of y varies greatly in the different parts of the area y. Our scheme, therefore, will now adopt this form—



But the important question remains how we ought to shade x. According to Clifford, this ought scarcely to be shaded at all, while according to theologians (and theists generally) it ought to be

shaded so much more deeply than either *y* or *z*, that the joint representation in one diagram would only be possible by choosing for the shading of *x* a colour different from that employed for *y* and *z*, and assigning to that colour a representative value higher than that assigned to the other in the ratio of one to infinity. It will be my object to estimate the relative probability of these rival estimates of the psychological value of *x*.

Starting from *z* as our centre, we know that this is an isolated system of subjectivity, and hence we infer that all *y* is composed of analogous systems, resembling one another as to their isolation, and differing only in their degrees of psychological value. Now this, translated into terms of *x* (or into terms of objectivity), means that *z* is an isolated system of matter in motion, and that the same has to be said of all the constituent parts of *y*. In other words, both subjectivity and ejectivity are only known under the condition of being isolated from objectivity; which, obversely considered, means that the matter in motion here concerned is temporarily separated off from the rest of the objective world, in such wise that it forms a distinct system of its own. If any part of the objective world rudely forces its way within the machinery of that system, it is at the risk of disarranging the machinery and stopping its work—as is the case when a bullet enters the brain. Such converse as the brain normally holds with the external world, is held through the appointed

channels of the senses, whereby appropriate causation is supplied to keep the otherwise isolated system at work. We know, from physiological evidence, that when such external causation is withheld, the isolated system ceases to work; therefore, the isolation, although complete under one point of view, under another point of view is incomplete. It is complete only in the sense in which the isolation of a machine is complete—i. e. it is in itself a working system, yet its working is ultimately dependent upon causation supplied from without in certain appropriate ways. This truth is likewise testified to on the obverse aspect of psychology. For analysis shows that all our mental processes (however complex they may be internally) are ultimately dependent on impressions of the external world gained through the senses. Whether regarded objectively or subjectively, therefore, we find that it is the business of the isolated system to elaborate, by its internal processes, the raw materials which are supplied to it from without. Seeing, then, that the isolation of the system is thus only partial, we may best apply to it the term circumscribed. Such partial isolation or circumscription of matter in motion—so that it shall in itself constitute a little working microcosm—appears to be the first condition to the being of a subjective personality. Why, then, does not the working of a machine present a subjective side?

Our answer to this question is to be found in the

following considerations. We are going upon the hypothesis that all mind is matter in motion, and that all matter in motion is mind—or, as Clifford phrased it, that all the external world is composed of mind-stuff. No matter how lightly we may shade x, we are assuming that it must be shaded, and not left perfectly white. Now, both mind and matter in motion admit of degrees: first as to quantity, next as to velocity, and lastly as to complexity. But the degrees of matter in motion are found, in point of observable fact, not to correspond with those of mind, save in the last particular of complexity, where there is unquestionably an evident correspondence. Therefore it is that a machine, although conforming to the prime condition of subjectivity in being a circumscribed system of matter in motion, nevertheless does not attain to subjectivity: the x does not rise to z because the internal processes of x are not sufficiently intricate, or their intricacy is not of the appropriate kind. From which it follows that although, as I have said, all matter in motion is mind, merely as matter in motion (or irrespective of the kinds and degrees of both) it may not necessarily be mind in the elaborated form of consciousness: it may only be the raw material of mind—or, as Clifford called it, mind-stuff. Thus, although all conscious volition is matter in motion, it does not follow that all matter in motion is conscious volition. Which serves to restate the question as to how far it is probable, or improbable, that all matter in motion

is conscious volition—i.e. how deeply we ought to shade x.

Well, the first thing to be considered in answering this question is that, according to the theory of Monism, we *know* that it is within the range of possibility for matter in motion to reach a level of intricacy which shall yield conscious volition, and even self-conscious thought of an extremely high order of development. Therefore, the only question is as to whether it is possible, or in any way probable, that matter in motion as occurring in x resembles, in point of intricacy, matter in motion as occurring in z. Professor Clifford perceived that this is the core of the question, and staked the whole answer to it on an extremely simple issue. He said that unless we can show in the disposition of heavenly bodies some morphological resemblance to the structure of a human brain, we are precluded from rationally entertaining any probability that self-conscious volition belongs to the universe. Obviously, this way of presenting the case is so grossly illogical that even the exigencies of popular exposition cannot be held to justify the presentation. For aught that we can know to the contrary, not merely the highly specialized structure of the human brain, but even that of nervous matter in general, may only be one of a thousand possible ways in which the material and dynamical conditions required for the apparition of self-consciousness can be secured. To imagine that the human brain of necessity exhausts these possibilities is in the last degree absurd.

Therefore, we may suggest the following presentation of Clifford's case as one that is less obviously inadequate:—if any resemblance to the material and dynamical conditions of the microcosm can be detected in the macrocosm, we should have good reason to ascribe to the latter those attributes of subjectivity which we know as belonging to the former; but if no such resemblance can be traced, we shall have some reason to suppose that these attributes do not belong to the universe. Even this, however, I should regard as much too wide a statement of the case. To take the particular conditions under which alone subjectivity is known to occur upon a single planet as exhausting the possibilities of its occurrence elsewhere, is too flagrant a use of the method of simple enumeration to admit of a moment's countenance. Even the knowledge that we have of the two great conditions under which terrestrial subjectivities occur—circumscription and complexity—is only empirical. It may well be that elsewhere (or apart from the conditions imposed by nervous tissue) subjectivity is possible irrespective both of circumscription and of complexity. Therefore, properly or logically regarded, the great use of the one exhibition of subjectivity furnished to human experience, is the proof thus furnished that subjectivity is possible under *some* conditions; and the utmost which on the grounds of such proof human experience is entitled to argue is, that *probably*, if subjectivity is possible elsewhere, its possibility is given by those conditions of circum-

scription and complexity in the material and dynamical relations concerned, which we find to be the invariable and quantitative concomitants of subjectivity within experience. But this is a widely different thing from saying that the only kind of such circumscription and complexity—or the only disposition of these relations—which can present a subjective side is that which is found in the structures and functions of a nervous system.

Now, if we fix our attention merely on this matter of complexity, and refuse to be led astray by obviously false analogies of a more special kind, I think there can be no question that the macrocosm does furnish amply sufficient opportunity, as it were, for the presence of subjectivity, even if it be assumed that subjectivity can only be yielded by an order of complexity analogous to that of a nervous system. For, considering the material and dynamical system of the universe as a whole, it is obvious that the complexity presented is greater than that of any of its parts. Not only is it true that all these parts are included in the whole, and that even the visible sidereal system alone presents movements of enormous intricacy [1], but we find, for instance, that even within the limits of this small planet there is

[1] If we imagine the visible sidereal system compressed within the limits of a human skull, so that all its movements which we now recognize as molar should become molecular, the complexity of such movement would probably be as great as that which takes place in a human brain. Yet to this must be added all the molecular movements which are now going on in the sidereal system, visible and invisible.

presented to actual observation a peculiar form of circumscribed complex, fully comparable with that of the individual brain, and yet external to each individual brain. For the so-called 'social organism,' although composed of innumerable individual personalities, is, with regard to each of its constituent units, a part of the objective world—just as the human brain would be, were each of its constituent cells of a construction sufficiently complex to yield a separate personality.

If to this it be objected that, as a matter of fact, the social organism does not possess a self-conscious personality, I will give a twofold answer. In the first place, Who told the objector that it has not? For aught that any one of its constituent personalities can prove to the contrary, this social organism may possess self-conscious personality of the most vivid character: its constituent human minds may be born into it and die out of it as do the constituent cells of the human body: it may feel the throes of war and famine, rejoice in the comforts of peace and plenty: it may appreciate the growth of civilization as its passage from childhood to maturity. If this at first sight appears a grotesque supposition, we must remember that it would appear equally so to ascribe such possibilities to the individual brain, were it not for the irrelevant accident of this particular form of complex standing in such relation to our own subjectivity that we are able to verify the fact of its ejectivity. Thus, for aught that we can tell to the contrary,

Comte may have been even more justified than his followers suppose, in teaching the personification of Humanity.

But, in the next place, if the social organism is not endowed with personality, this may be for either one of two reasons. All the conditions required for attaining so high a level of psychical perfection may not be here present; or else the level of psychical perfection may be higher than that which we know as personality. This latter alternative will be considered in another relation by-and-by, so I will not dwell upon it now. But with reference to all these possible contingencies, I may observe that we are not without clear indications of the great fact that the high order of complexity which has been reached by the social organism *is* accompanied by evidence of something which we may least dimly define as resembling subjectivity. In numberless ways, which I need not wait to enumerate, we perceive that society exhibits the phenomena both of thought and conduct. And these phenomena cannot always be explained by regarding them as the sum of the thoughts and actions of its constituent individuals—or, at least, they can only be so regarded by conceding that the thoughts and actions of the constituent individuals, when thus *summated*, yield a different product from that which would be obtained by a merely arithmetical computation of the constituent parts: the composite product differs from its component elements, as H_2O differs from $2H + O$. The general truth of

this remark will, I believe, be appreciated by all historians. Seeing that ideas are often, as it is said, 'in the air' before they are condensed in the mind of individual genius, we habitually speak of the 'Zeit-geist' as the product of a kind of collective psychology, which is something other than the mere sum of all the individual minds of a generation. That is to say, we regard society as an eject, and the more that a man studies the thought and conduct of society, the more does he become convinced that we are right in so regarding it. Of course this eject is manifestly unlike that which we form of another individual mind: it is much more general, vague, and so far unlike the pattern of our own subjectivity that even to ascribe to it the important attribute of personality is felt, as we have just seen, to approach the grotesque. Still, in this vague and general way we do ascribe to society ejective existence: we habitually think of the whole world of human thought and feeling as a psychological complex, which is other than, and more than, a mere shorthand enumeration of all the thoughts and feelings of all individual human beings.

The ejective existence thus ascribed to society serves as a stepping-stone to the yet more vague and general ascription of such existence to the Cosmos. At first, indeed, or during the earliest stages of culture, the ascription of ejective existence to the external world is neither vague nor general: on the contrary, it is most distinct and specific. Beginning in the rudest forms of animism, where

every natural process admits of being immediately attributed to the volitional agency of an unseen spirit, anthropomorphism sets out upon its long course of development, which proceeds *pari passu* with the development of abstract thought. Man, as it has been truly said, universally makes God in his own image; and it is difficult to see how the case could be otherwise. Universally the eject must assume the pattern of the subject, and it is only in the proportion that this pattern presents the features of abstract thinking that the image which it throws becomes less and less man-like. Hence, as Mr. Fiske has shown in detail, so soon as anthropomorphism has assumed its highest state of development, it begins to be replaced by a continuous growth of 'deanthropomorphism,' which, passing through polytheism into monotheism, eventually ends in a progressive 'purification' of theism —by which is meant a progressive metamorphosis of the theistic conception, tending to remove from Deity the attributes of Humanity. The last of these attributes to disappear is that of personality, and when this final ecdysis has been performed, the eject which remains is so unlike its original subject, that, as we shall immediately find, it is extremely difficult to trace any points of resemblance between them.

Now it is with this perfect, or imago condition of the world-eject, that we have to do. Mr. Herbert Spencer, in what I consider the profoundest reaches of his philosophic thought, has well shown, on the

one hand, how impossible it is to attribute to Deity any of the specific attributes of mind as known to ourselves subjectively; and, on the other hand, how it is possible to conceive 'symbolically' that the universe may be instinct with a 'quasi-psychical' principle, as greatly transcending personality as personality transcends mechanical motion[1]. Accepting, then, the world-eject in this its highest conceivable stage of evolution, I desire to contemplate it under the light of the monistic theory.

We have seen that, whether we look upon the subjective or objective face of personality, we find that personality arises from limitation—or, as I have previously termed it, circumscription. Now, we have no evidence, nor are we able to conceive, of the external world as limited; consequently we are not able to conceive, of the world-eject as personal. But, inasmuch as personality arises only from limitation, the conclusion that the world-eject is impersonal does not tend to show that it is of lower psychical value than conscious personality: on the contrary, it tends to show that it is probably of higher psychical value. True, we are not able to conceive actually of mind as impersonal; but we can see that this merely arises from our only experience of mind being given under conditions of personality; and, as just observed, it is possible to conceive symbolically that there may be a form of mind as greatly

[1] *Principles of Psychology*, vol. i. pp. 159–61; *Essays*, vol. iii. pp. 246–9; and *First Principles*, p. 26.

transcending personality as personality transcends mechanical motion.

Now, although we cannot conceive of such a mind actually, we may most probably make the nearest approach to conceiving of it truly, by *provisionally* ascribing to it the highest attributes of mind as known to ourselves, or the attributes which belong to human personality. Just as a thinking insect would derive a better, or more true, conception of human personality by considering it ejectively than by considering it objectively (or by considering the mind-processes as distinguished from the brain-processes), so, if there is a form of mind immeasurably superior to our own, we may probably gain a more faithful—howsoever still inadequate—conception of it by contemplating its operations ejectively than by doing so objectively. I will, therefore, speak of the world-eject as presenting conscious volition, on the understanding that if x does not present either consciousness or volition, this must be—according to the fundamental assumption of psychism on which we are now proceeding—because x presents attributes at least as much higher than consciousness or volition as these are higher than mechanical motion. For when we consider the utmost that our conscious volition is able to accomplish in the way of contrivance—how limited its knowledge, how short its duration, how restricted its range, and how imperfect its adaptations—we can only conclude that *if* the ultimate constitution of all things is

pyschical, the philosophy of the Cosmos becomes a 'philosophy of the Unconscious' only because it is a philosophy of the Superconscious.

Now, if once we feel ourselves able to transcend the preliminary—and doubtless very considerable—difficulty of symbolically conceiving the world-eject as super-conscious, and (because not limited) also super-personal, I think there can be no question that the world-object furnishes overwhelming proof of psychism. I candidly confess that I am not myself able to overcome the preliminary difficulty in question. By discharging the elements of personality and conscious volition from the world-eject, I appear to be discharging from my conception of mind all that most distinctively belongs to that conception ; and thus I seem to be brought back again to the point from which we started: the world-eject appears to have again resolved itself into the unknown quantity x. But here we must distinguish between actual conception and symbolical conception. Although it is unquestionably true that I can form no actual conception of Mind save as an eject of personality and conscious volition, it is a question whether I am not able to form a symbolical conception of Mind as thus extended. For I know that consciousness, implying as it does continual change in serial order of circumscribed mental processes, is not (symbolically considered) the highest conceivable exhibition of Mind ; and just as a mathematician is able to deal symbolically with space of n dimensions, while only

able really to conceive of space as limited to three dimensions, so I feel that I ought not to limit the abstract possibilities of mental being by what I may term the accidental conditions of my own being.

I need scarcely wait to show why it appears to me that if this position is granted, the world-object furnishes, as I have said, overwhelming proof of psychism; for this proof has been ably presented by many other writers. There is first the antecedent improbability that the human mind should be the highest manifestation of subjectivity in this universe of infinite objectivity. There is next the fact that throughout this universe of infinite objectivity—so far, at least, as human observation can extend—there is unquestionable evidence of some one integrating principle, whereby all its many and complex parts are correlated with one another in such wise that the result is universal order. And if we take any part of the whole system—such as that of organic nature on this planet—to examine in more detail, we find that it appears to be instinct with contrivance. So to speak, wherever we tap organic nature, it seems to flow with purpose; and, as we shall presently see, upon the monistic theory the evidence of purpose is here in no way attenuated by a full acceptance of any of the 'mechanical' explanations furnished by science. Now, these large and important facts of observation unquestionably point, as just observed, to some one integrating principle as pervading the Cosmos; and, if so, we can scarcely

be wrong in supposing that among all our conceptions it must hold nearest kinship to that which is our highest conception of an integrating cause—viz., the conception of psychism. Assuredly no human mind could either have devised or maintained the working of even a fragment of Nature; and, therefore, it seems but reasonable to conclude that the integrating principle of the whole—the Spirit, as it were, of the Universe—must be something which, while as I have said holding nearest kinship with our highest conception of disposing power, must yet be immeasurably superior to the psychism of man. The world-eject thus becomes invested with a psychical value as greatly transcending in magnitude that of the human mind, as the material frame of the universe transcends in its magnitude the material frame of the human body. Therefore, without in any way straining the theory of Monism, we may provisionally shade x more deeply than z, and this in some immeasurable degree.

One other matter remains to be considered with reference to this world-eject as sanctioned by Monism. It leaves us free to regard all natural causation as a direct exhibition of psychism. The prejudice against anything approaching a theistic interpretation of the Universe nowadays arises chiefly from the advance of physical science having practically revealed the ubiquity of natural causes. It is felt that when a complete explanation of any

given phenomenon has been furnished in terms of these causes, there is no need to go further; the phenomenon has been rendered intelligible on its mechanical side, and therefore it is felt that we have no reason to suppose that it presents a mental side—any supplementary causation of a mental kind being regarded as superfluous. Even writers who expressly repudiate this reasoning prove themselves to be habitually under its influence; for we constantly find that such writers, after conceding the mechanical explanations as far as these have been *proved*, take their stand upon the more intricate phenomena of Nature where, as yet, the mechanical explanations are not forthcoming. Whether it be at the origin of life, the origin of sentiency, of instinct, of rationality, of morality, or of religion, these writers habitually argue that here, at least, the purely mechanical interpretations fail; and that here, consequently, there is still room left for a psychical interpretation. Of course the pleading for theism thus supplied is seen by others to be of an extremely feeble quality; for while, on the one hand, it rests only upon ignorance of natural causation (as distinguished from any knowledge of supernatural causation), on the other hand, abundant historical analogies are available to show that it is only a question of time when pleading of this kind will become more and more restricted in its subject-matter, till eventually it be altogether silenced. But the pleading which Monism is here able to supply can never be silenced.

For, according to Monism, all matter in motion is mind ; and, therefore, matter in motion is merely the objective revelation, *to* us and *for* us, of that which in its subjective aspect—or in its ultimate reality—is mind. Just as the operations of my friend's mind can only be revealed to me through the mechanical operations of his body, so it may very well be that the operations of the Supreme Mind (supposing such to exist) can only be revealed to me through the mechanical operations of Nature. The only difference between the two cases is that while I am able, in the case of my friend's mind, to elicit responses of mechanical movement having a definite and intended relation to the operations of my own mind, similarly expressed to him ; such is not the case with Nature. With the friend-eject I am able to *converse* ; but not so with the world-eject[1]. This great difference, however,

[1] It is, however, the belief of all religious persons that even this distinction does not hold. If they are right in their belief, the distinction would then become one as to the mode of converse. In this case what is called communion with the Supreme Mind must be supposed to be a communion *sui generis* : the converse of mind with mind is here *direct*, or does not require to be translated into the language of mechanical signs : it is subjective, not ejective. Still, even here we must believe that the physical aspect accompanies the psychical, although not necessarily observed. An act of prayer, for example, is, on its physical aspect, an act of cerebration : so is the answer (supposing it genuine), in as far as the worshipper is concerned. Thus prayer and its answer (according to Monism) resemble all the other processes of Nature in presenting an objective side of strictly physical causation. Nor is it possible that the case could be otherwise, if *all* mental processes consist in physical process, and vice versa. It is obvious that this consideration has important

although obviously depriving me of any such direct corroboration of psychism in the world-eject as that which I thus derive of psychism in the friend-eject, ought not to be regarded by me as amounting, in the smallest degree, to *disproof* of psychism in the world-eject. The fact that I am not able to converse with the world-eject is merely a negative fact, and should not be allowed to tell against any probability (otherwise derived) in favour of psychism as belonging to that eject. There may be a thousand very good reasons why I should be precluded from such converse—some of which, indeed, I can myself very clearly perceive.

The importance of Monism in thus enabling us rationally to contemplate all processes of

bearings on the question as to the physical efficacy of prayer. From a monistic point of view both those who affirm and those who deny such efficacy are equally in the right, and equally in the wrong; they are merely quarrelling upon different sides of the same shield. For, according to Monism, if the theologians are right in supposing that the Supreme Mind is the hearer of prayer in any case, they are also right in supposing that the Mind must necessarily be able to grant what is called physical answers, seeing that in order to grant *any* answer (even of the most apparently spiritual kind) some physical change must be produced, if it be only in the brain of the petitioner. On the other hand, the scientists are equally right in maintaining that no physical answer to prayer can be of the nature of a miracle, or produced independently of strictly physical causation; for, if so, the physical and the psychical would no longer be coincident. But, until the scientists are able to perform the hopeless task of proving where the possibilities of physical causation end, as a mere matter of abstract speculation and going upon the theory of Monism, it is evident that the theologians may have any latitude they choose to claim, both as regards this matter and that of so-called miracles.

physical causation as possibly immediate exhibitions of psychism, is difficult to overrate. For it entirely discharges all distinction between the mechanical and the mental; so that if physical science were sufficiently advanced to yield a full natural explanation of all the phenomena within human experience, mankind would be in a position to gain as complete a knowledge as is theoretically possible of the psychological character of the world-eject. Already we are able to perceive the immense significance of being able to regard any sequence of natural causation as the merely phenomenal aspect of the ontological reality—the merely outward manifestation of an inward meaning. Thus, for example, I am listening to a sonata of Beethoven's played by Madame Schumann. Helmholtz tells me all that he knows about the physics and physiology of the process, both beyond and within my brain. But I feel that, even if Helmholtz were able to tell me very much more than he can, so long as he is dealing with these objective explanations, he is at work only upon the outer skin of the whole matter. The great reality is the mind of Beethoven communicating to my mind through the complex intervention of three different brains with their neuro-muscular systems, and an endless variety of aërial vibrations proceeding from a pianoforte. The method of communication has nothing more to do with the reality communicated than have the paper and ink of this essay to do with the ideas

which they serve to convey. In each case a vehicle of symbols is necessary in order that one mind should communicate with another; but in both cases this is a vehicle of *symbols*, and nothing more. Everywhere, therefore, the reality may be psychical, and the physical symbolic; everywhere matter in motion may be the outward and visible sign of an inward and spiritual grace.

Take again the case of morality and religion. Because science, by its theory of evolution, appears to be in a fair way of explaining the genesis of these things by natural causes, theists are taking alarm; it is felt by them that if morality can be fully explained by utility, and religion by superstition, the reality of both is destroyed. But Monism teaches that such a view is entirely erroneous. For, according to Monism, the natural causation of morality and religion has nothing whatever to do with the ultimate truth of either. The natural causation is merely a record of physical processes, serving to manifest the psychical processes. Nor can it make any difference, as regards the ultimate veracity of the moral and religious feelings, that they have been developed slowly by natural causes; that they were at first grossly selfish on the one hand, and hideously superstitious on the other; that they afterwards went through a long series of changes, none of which therefore can have fully corresponded with external truth; or that even now they may be both extremely far from any such correspondence. All that such considerations

go to prove is, that it belongs to the natural method of mental evolution in man that with advancing culture his ejective interpretations of Nature should more and more nearly *approximate* the truth. The world-eject must necessarily vary with the character of the human subject; but this does not prove that the ejective interpretation has throughout been wrong in *method*: it only proves that such interpretation has been imperfect—and necessarily imperfect—in *application*.

Such, then, I conceive to be one of the most important consequences of the monistic theory. Namely, that by regarding physical causation as everywhere but the objective or phenomenal aspect of an ejective or ontological reality, it furnishes a logical basis for a theory of things which is at the same time natural and spiritual. On the objective aspect, the explanations furnished by reason are of necessity physical, while, on the ejective aspect, such explanations are of necessity metaphysical—or rather, let us say, hyper-physical. But these two orders of explanation are different only because their modes of interpreting the same events are different. The objective explanation which was given (as we supposed) by Helmholtz of the effects produced on the human brain by hearing a sonata, was no doubt perfectly sound within its own category; but the ejective explanation of these same effects which is given by a musician is equally sound within *its* category. And similarly, if instead of the man-object we contemplate the world-object

physical causation becomes but the phenomenal aspect of psychical causation; the invariability of its sequence becomes but the expression of intentional order; the iron rigidity of natural law becomes the sensuous manifestation of an unalterable consistency as belonging to the Supreme Volition.

My object in this paper has been to show that the views of the late Professor Clifford concerning the influence of Monism on Theism are unsound. I am in full agreement with him in believing that Monism is destined to become the generally accepted theory of things, seeing that it is the only theory of things which can receive the sanction of science on the one hand and of feeling on the other. But I disagree with him in holding that this theory is fraught with implications of an anti-theistic kind. In my opinion this theory leaves the question of Theism very much where it was before. That is to say, while not furnishing any independent proof of Theism, it likewise fails to furnish any independent disproof. The reason why in Clifford's hands this theory appeared to furnish independent disproof, was because he persisted in regarding the world only as an object: he did not entertain the possibility that the world might also be regarded as an eject. Yet, that the world, under the theory of Monism, is at least as susceptible of an ejective as it is of an objective interpretation, I trust that I have now been able to show. And this is all that I have endeavoured to show. As a matter of methodical reasoning it appears to me that

Monism alone can only lead to Agnosticism. That is to say, it leaves a clear field of choice as between Theism and Atheism; and, therefore, to a carefully reasoning Monist, there are three alternatives open. He may remain a Monist, and nothing more; in which case he is an agnostic. He may entertain what appears to him independent evidence in favour of Theism, and thus he may become a theist. Or he may entertain what appears to him independent evidence in favour of Atheism, and thus he may become an atheist. But, in any case, so far as his Monism can carry him, he is left perfectly free either to regard the world as an object alone, or to regard the world as also an eject[1].

[1] It may be explained that by Agnosticism I understand a theory of things which abstains from either affirming or denying the existence of God. It thus represents, with regard to Theism, a state of suspended judgement; and all it undertakes to affirm is, that, upon existing evidence, the being of God is unknown. But the term Agnosticism is frequently used in a widely different sense, as implying belief that the being of God is not merely now unknown, but must always remain unknowable. It is therefore often represented that Mr. Herbert Spencer, in virtue of his doctrine of the Unknowable, is a kind of apostle of Agnosticism. This, however, I conceive to be a great mistake. The distinctive features of Mr. Spencer's doctrine of the Unknowable are not merely non-agnostic, but anti-agnostic. For the doctrine affirms that we have this much knowledge of God—namely, that if He exists, He must for ever be unknown. Without question, this would be a most important piece of definite knowledge with regard to Deity, negative though it be; and, therefore, any man who holds it has no right to be called an agnostic.

To me it has always seemed that the doctrine of the Unknowable, in so far as it differs from the doctrine of the Unknown, is highly

unphilosophical. By what right can it be affirmed that Deity, if He exists, may not reveal the fact of His existence to-morrow—and this to the whole human race without the possibility of doubt? Or, if there be a God, who is to say that there certainly cannot be a future life, in which each individual man may have unquestionable proof of Theism? It is a perfectly philosophical statement for any one to make that, as matters now stand, he can see no evidence of Theism; but to say that he knows the human race never can have such evidence, is a most unphilosophical statement, seeing that it could only be justified by absolute knowledge. And, on this account, I say that the doctrine of the Unknowable, in so far as it differs from the doctrine of the Unknown, is the very reverse of agnostic.

Now, the theory of Monism alone, as observed in the text, appears to be purely agnostic in the sense just explained. If in some parts of the foregoing essay I appear to have been arguing in favour of theistic implications, this has only been in order to show (as against Clifford) that the world does admit of being regarded as an eject. But inasmuch as—religious faith apart—we are not able to verify any such ejective interpretation, we are not able to estimate its value. Monism sanctions the shading of x as deeply as we choose; but the shading which it sanctions is only provisional.

CHAPTER V.

THE WILL IN RELATION TO MATERIALISM AND SPIRITUALISM.

In the foregoing chapters I have considered the theory of Monism, first in contrast with the theories of Materialism and of Spiritualism, and next in relation to the theory of Theism. In this chapter and that which succeeds it I propose to consider Monism in relation to the Will. To do this it is needful to begin by considering the problems which are presented by the Will in relation to the older theories of Materialism on the one hand and of Spiritualism on the other.

Although the phenomena of volition have occupied so large a province of philosophical literature, the fundamental problems which arise in connexion with them are only two in number, and both admit of being stated in extremely simple terms. The historical order in which these two problems have arisen is the inverse of their logical order. For while in logical order the two problems would stand thus—Is the Will an agent? If so, is it a free agent?—in actual discussion it was long taken for granted

that the Will is an agent, and hence the only controversy gathered round the question whether the Will is a free agent. Descartes, indeed, seems to have entertained the prior question with regard to animals, and there are passages in the *Leviathan* which may be taken to imply that Hobbes entertained this question with regard to man. But it was not until recent years that any such question could stand upon a basis of science as distinguished from speculation; the question did not admit of being so much as stated in terms of science until physiology was in a position openly to challenge our right to assume that the Will is an agent. Such a challenge physiology has now given, and even declared that any assumption of volitional agency is, in the presence of adequate physiological knowledge, impossible.

The two problems which I thus state separately are often, and indeed generally, confused together; but for the purpose of clear analysis it is of the first importance that they should be kept apart. In order to show the wide distinction between them, we may best begin with a brief consideration of what it is that the two problems severally involve; and to do this we may best take the problems in what I have called their logical order.

First, then, as regards the question whether the Will is an agent, the rival theories of Materialism and Spiritualism stand to one another in a relation of contradiction. For it is of the essence of

Spiritualism to regard the Will as an agent, or as an original cause of bodily movement, and therefore as a true cause in Nature. On the other hand, it is of the essence of Materialism to deny that the Will is an agent. Hitherto, indeed, materialists as a body have not expressly recognized this implication as necessarily belonging to their theory; but that this implication does necessarily belong to their theory—or rather, I should say, really constitutes its most distinctive feature—admits of being easily shown. For the theory that material changes are the causes of mental changes necessarily terminates in the so-called theory of conscious automatism—or the theory that so far as the conditions to bodily action are concerned, consciousness is adventitious, bearing the same ineffectual relation to the activity of the brain as the striking of a clock bears to the time-keeping adjustments of the clock-work. From this conclusion there is no possibility of escape, if once we accept the premises of Materialism; and therefore I say it belongs to the essence of Materialism to deny the agency of Will.

Just as necessarily does it belong to the essence of Monism to affirm the agency of Will. For, according to this theory, while motion is producing nothing but motion, mind-change nothing but mind-change, both are producing both simultaneously; neither could be what it is without the other, for each is to the other a necessary counterpart or supplement, in the absence of which the whole

causation (whether regarded from the physical or mental side) would not be complete.

Now, in my opinion the importance of the view thus presented by the theory of Monism is, for all purposes of psychological analysis, inestimable. It is impossible nowadays that such analysis can proceed very far in any direction without confronting the facts presented by physiology: hence it is impossible for such analysis to confine itself exclusively to the spiritual or subjective side of psychology. On the other hand, in so far as such analysis has regard to the material or objective side, it has hitherto appeared to countenance—in however disguised a form—the dogmatic denial of the Will as an agent. Hence the supreme importance to psychology of reconciling the hitherto rival theories of Spiritualism and Materialism in the higher synthesis which is furnished by the theory of Monism. For, obviously, in the absence of any philosophical justification of the Will as an agent, we are without any guarantee that all psychological inquiry is not a vain beating of the air. If, as Materialism necessarily implies, the Will is not a cause in Nature, there would be no reason in Nature for the agency either of feeling or of intelligence. Feeling and intelligence would, therefore, stand as ciphers in the general constitution of things; and any inquiry touching their internal system of causation could have no reference to any scientific inquiry touching causation in general. I am aware that this truth is habitually overlooked

by psychologists; but it is none the less a truth of fundamental importance to the whole superstructure of this science. Or, in other words, unless psychologists will expressly consent to rear their science on the basis provided by the philosophical theory of Monism, there is nothing to save it from logical disintegration; apart from this basis, the whole science is, so to speak, built in the air, like an unsubstantial structure of clouds. Psychologists, I repeat, habitually ignore this fact, and constantly speak of feeling and intelligence as true causes of adjustive action; but by so doing they merely beg from this contradictory theory of Spiritualism a flat denial of the fundamental postulate on which they elsewhere proceed—the postulate, namely, that mental changes are determined by cerebral changes. Consider, for example, the following passage from Mr. Spencer's *Principles of Psychology* (§ 125), which serves to show in brief compass the logical incoherency which in this matter runs through his whole work:—

'Those races of beings only can have survived in which, on the average, agreeable or desired feelings went along with activities conducive to the maintenance of life, while disagreeable and habitually-avoided feelings went along with activities directly or indirectly destructive of life; and there must ever have been, other things equal, the most numerous and long-continued survivals among races in which these adjustments of feelings to actions were the best, tending ever to bring about perfect adjustment.'

The argument here is that the 'adjustments of feelings to actions,' when once attained, leads in

turn to an adjustment of actions to feelings—or, as I have myself stated the argument in my *Mental Evolution in Animals*, 'the *raison d'être* of Pleasure and Pain has been that of furnishing organisms with guides to adjustive action: moreover, as in the case of direct sensation dictating any simple adjustment for the sake of securing an immediate good, so in the case of instinct dictating a more intricate action for the sake of eventually securing a more remote good (whether for self, progeny, or community); and so, likewise, in the case of reason dictating a still more intricate adjustment for the sake of securing a good still more remote—in all cases, that is, where volition is concerned, pleasures and pains are the guides of action.' But thus to affirm that pleasures and pains are the guides of action is merely another way of affirming that the Will is an agent—a cause of bodily movement, and, as such, a cause in Nature. Now, as we have seen, Mr. Spencer not only affirms this—or rather assumes it—but proceeds to render an *a priori* explanation of the accuracy of the guidance. Yet he nowhere considers the fundamental question—Why should we suppose that the Will is an agent at all? Assuredly the answer given by physiology to this question is a simple denial that we have any justification so to regard the Will: in view of her demonstration of conscious automatism, she can see no reason why there should be any connexion at all between a subjective feeling of pleasure or pain and an objective fact of 'agreement or disagreement with the

environment'—nay, one of the most eminent of her priesthood has declared that there *is* no more connexion between the ambition of a Napoleon and a general commotion of Europe, than there is between the puff of a steam-whistle and the locomotion of a train. And, as I have now repeatedly insisted, on grounds of physiology alone this is the only logical conclusion at which it is possible to arrive. Yet Mr. Spencer, while elsewhere proceeding on the lines of physiology, whenever he encounters the question of the agency of Will, habitually jumps the whole gulf that separates Materialism from Spiritualism. And this wonderful feat of intellectual athletics is likewise performed, so far at least as I am aware, by every other psychologist who has proceeded on the lines of physiology. Indeed, the logical incoherency is not so serious in Mr. Spencer's case as it is in that of many other writers whom I need not wait to name. For Mr. Spencer does not seek to found his system on a basis of avowed Materialism, and, therefore, he may be said to have left this fundamental question of volitional agency in abeyance. But all those writers who have reared their systems of psychology on a basis of avowed Materialism—or, which is the same thing, on a basis of physiology alone—lay themselves open to the charge of grossest inconsistency when they thus assume that the Will is an agent. It is impossible that these writers can both have their cake and eat it. Either they must forego their Materialism, or else they

must cease to speak of 'motives determining action,' 'conduct being governed by pleasures and pains,' 'voluntary movements in their last resort being all due to bodily feelings,' 'the highest morality and the lowest vice being alike the result of a pursuit of happiness,' &c. &c. And, so far as I can see, it is only in the way above indicated, or on the theory of Monism, that it is possible, without ignoring the facts of physiology on the one hand or those of psychology on the other, philosophically to save the agency of Will.

From this brief exposition it may be gathered that on the materialistic theory it is impossible that the Will can be, in any sense of the term, an agent; that on the spiritualistic theory the Will is regarded as an agent, but only in the sense of a non-natural or miraculous cause; and, lastly, that on the monistic theory the Will is saved as an agent, or may be properly regarded and as properly denominated a true cause, in the ordinary sense of that term. For this, as well as for other reasons which need not here be specified, I accept in philosophy the theory of Monism; and am thus entitled in psychology to proceed upon the doctrine that the Will is an agent. We have next to consider the ulterior question whether upon this theory the Will may be properly regarded as a free agent.

By a free agent is understood an agent that is able to act without restraint, or spontaneously. The word 'free,' therefore, bears a very different

meaning when applied exclusively to the Will, and when applied more generally to the living organism. For we may properly say that a man, or an animal, is free when he, or it, is at liberty to act in accordance with desire. Touching the fact of freedom in this sense there is, of course, no question. We have not to consider the possible freedom of man, but the possible freedom of Will; we have not to contemplate whether a man may be free to do what he wills, but whether he can be free to will what he wills. Such being the question, we have to consider it in relation to the three philosophical theories already stated—Materialism, Spiritualism, and Monism.

For the theory of Materialism the present question has no existence. If this announcement appears startling, it can only be because no materialist has ever taken the trouble to formulate his own theory with distinctness. For, as previously shown, Materialism necessarily involves the doctrine of conscious automatism; but, if so, the Will is concluded not to be an agent at all, and therefore it becomes idle to discuss whether, in any impossible exercise of its agency, it is free or subject to restraint. The most that in this connexion could logically stand to be considered by the advocates of Materialism would be whether or not the adventitious and inefficacious feelings of subjectivity which are associated with cerebral activity are determinate or free; but this would probably be regarded on all hands as a somewhat

useless topic of discussion, and certainly in any case would have no reference to the question of free *agency*. The point to be clearly understood is that, according to the materialistic theory, a motor is distinct from a motive, although in some unaccountable manner the motor is able to cause the motive. But the motive, when thus caused, is not supposed to exert any causal influence on bodily action; it is supposed to begin and end as a motive, or never itself to become a motor. In other words, as before stated, the Will is not supposed to be an agent; and, therefore, to this theory the doctrine of free-will and of determinism are alike irrelevant. We need not wait to prove that this important fact is habitually overlooked by materialists themselves, or that whenever a materialist espouses the cause of determinism, he is thereby and for the time being vacating his position as a materialist; for if, according to his theory, the Will is not an agent, he is merely impugning his own doctrines by consenting to discuss the conditions of its agency.

The theory of Spiritualism and the theory of Monism agree in holding that the Will is an agent; and, therefore, to both of these theories the question whether the Will is a free agent is a real question. Here, then, it devolves upon us to consider carefully the logical status of the rival doctrines of so-called Liberty and Necessity. For convenience of arrangement in what follows, we may best begin with the doctrine of Necessity, or Determinism.

CHAPTER VI.

THE WILL IN RELATION TO MONISM.

We have now seen that, according to Materialism, the Will is not an agent, while according both to Spiritualism and to Monism the Will is an agent. Touching the further question, whether the Will is a free agent, we have seen that while the question does not exist for Materialism, it appears to require a negative answer both from Spiritualism and from Monism. For, as regards its relation to Spiritualism, when once the ground is cleared of certain errors of statement and fallacies of reasoning, we appear to find that unless the will is held to be motiveless—which would be to destroy not only the doctrine of moral responsibility, but likewise that of universal causation—it must be regarded as subject to law, or as determined in its action by the nature of its past history and present circumstances. Lastly, the theory of Monism appears likewise to deny the possibility of freedom as an attribute of Will; for, according to this theory, mental processes are one and the same with physical processes, and hence it does not appear

that the doctrine of determinism could well be taught in a manner more emphatic.

Thus far, then, the doctrine of determinism is seen to be victorious over the doctrine of freedom all along the line. By Materialism the question of freedom is excluded *ab initio* ; by Spiritualism and by Monism, so far as yet seen, it can be logically answered only in the negative. From which it follows that the sense of moral responsibility is of the nature of a vast illusion, the historical genesis of which admits of being easily traced, and the authority of which is thus destroyed. Although it may still serve to supply motives to conduct, it seems that it can do so only in the way that belongs to superstition—that Conscience, as I have before said, is the bogey of mankind, and that belief in its authority is like belief in witchcraft, destined to dwindle and to fade before the advance of a better or more complete knowledge of natural causation.

But the discussion must not end here. Hitherto I have presented the case Liberty *versus* Necessity with all the impartiality of which I am capable ; but I have done so without travelling an inch beyond those limits of discussion within which the question has been debated by previous writers. I believe, indeed, that I have pointed out several important oversights which have been made on both sides of the question ; but in doing this I have not gone further than the philosophical basis upon which the question has been hitherto

argued. My object, however, in publishing these papers is not that of destructive criticism; and what I have done in this direction has been done only in order to prepare the way for what is now to follow. Having shown, as it appears to me conclusively, that upon both the rival theories of Materialism and Spiritualism—the doctrine of Liberty, and therefore of Moral Responsibility—must logically fall, I now hope to show that this doctrine admits of being re-established on a basis furnished by the theory of Monism.

It often happens that an elaborate structure of argument, which is perfectly sound and complete upon the basis furnished by a given hypothesis, admits of being wholly disintegrated when the fundamental hypothesis is shown to be either provisional or untrue. And such, I believe, is the case with the issue now before us. For the issue Liberty *versus* Necessity has hitherto been argued on the common assumption that natural causation is not merely the most ultimate principle which the human mind can reach; but also a principle which is, in some way or another, external to that mind. It has been taken for granted by both sides in the controversy that if our volitions can be proved to depend upon natural causation, as rigid in its sequences within the sphere of a human mind as within that of a calculating machine, there must be an end of the controversy; seeing that our volitions would be thus proved to be rigidly determined by those same principles of fixed order, or 'natural

law,' which are external to, or independent of, the human mind—quite as much as they are external to, or independent of, the calculating machine. Now, it is this assumption which I challenge. The theory of Monism entitles one to deny that when we have driven the question down to the granite bed of natural causation, nothing more remains to be done; according to this theory it still remains to be asked, What is the nature of this natural causation? Is it indeed the ultimate datum of experience, below which the human mind cannot go? And is it indeed so far external to, or independent of, the human mind, that the latter stands to it in the relation of a slave to a master—coerced as to action by the conditions which that master has laid down?

Now these questions are all virtually answered in the affirmative by the dualistic theory of Spiritualism. For the Will is here regarded as an agent bound to act in accordance with those conditions of external necessity which dualism recognizes as natural causation. Its internal causation thus becomes but the reflex of external; and the reflection becomes known internally as the consciousness of motive. Hence, the Will cannot be philosophically liberated from the toils of this external necessity, so long as dualism recognizes that necessity as existing independently of the Will, and thus imposing its conditions on volitional activity. But the theory of Monism, by identifying external with internal causation—

or physical processes with psychical processes—philosophically saves the doctrine of freedom, and with it the doctrine of moral responsibility. Moreover, it does so without relying upon any precarious appeal to the direct testimony of consciousness itself. As this view of the subject is one by no means easy of apprehension, I will endeavour to unfold it part by part.

To begin with, Monism excludes the possibility of volition being determined by cerebration. Let us suppose, for example, that a sequence of ideas, *A*, *B*, *C*, *D*, occurs in the mind, which on its obverse or cerebral aspect may be represented by the sequence *a*, *b*, *c*, *d*. Here the parallelism is not due, as supposed by Materialism, to *a* determining *Ab*, *b* determining *Bc*, &c.; it is due to *Aa* determining *Bb*, *Bb* determining *Cc*, &c.—the two apparently diverse causal sequences being really but one causal sequence. If the determinist should rejoin that a causal sequence of some kind is all that he demands—that the Will is equally proved to be unfree, whether it be bound by the causal sequence *a*, *b*, *c*, *d*, or by the causal sequence *Aa*, *Bb*, *Cc*, *Dd*—I answer that this is a point which we have to consider by-and-by. Meanwhile I am only endeavouring to make clear the essential distinction between the philosophical theories of Monism and Materialism. And the effect of this distinction is to show that, for the purposes of clear analysis, we may wholly neglect either side of the double reality. If we happen to be engaged

on any physiological inquiry, we may altogether neglect the processes of ideation with which any process of cerebration may be concerned; while, if we happen to be engaged upon any psychological inquiry, we may similarly neglect the processes of cerebration with which any process of ideation may be concerned. Seeing that each is equally an index of a common sequence, it can make no difference which of them we take as our guide, although for purposes of practical inquiry it is of course expedient to take the cerebral index when we are dealing with the objective side of the problem, and the mental index when dealing with the subjective. In the following pages, therefore, I shall altogether neglect the cerebral index. The inquiry on which we are engaged belongs to the region of mind, and, therefore, after what has just been said, it will be apparent that I am entitled to adopt the standpoint of a spiritualist, to the extent of fastening attention only upon the mental side of the problem. For although the theory of Monism teaches, as against Spiritualism, that no one of the mental sequences could take place without a corresponding physical sequence, the theory also teaches the converse proposition; and therefore it makes no difference which of the two phenomenal sequences is taken as our index of the ontological.

Now, it clearly makes a great difference whether the mental changes concerned in volition are

regarded as effects or as causes. According to Materialism, the mental changes are the effects of cerebral changes, which were themselves the effects of precedent cerebral changes. According to Spiritualism, these mental changes are the causes, not only of the cerebral changes, but also of one another. According to Monism, the mental changes may be regarded as the causes of the cerebral, or *vice versa*, seeing that in neither case are we stating a real truth—the real truth being that it is only a cerebro-mental change which can cause any change either of cerebration or of mentation. Now it is evident that if the mental processes were always the effects of cerebral processes (Materialism), there could be no further question with regard to Liberty and Necessity; while, if the mental processes are the causes both of the cerebral processes and of one another (Spiritualism), the question before us becomes raised to a higher level. The causality in question being now regarded as purely mental, the will is no longer regarded as a passive slave of the brain, and the only thing to be considered is whether freedom is compatible with causation of a purely mental kind. Now, at an earlier stage of our enquiry I have argued that it is not; but this argument was based entirely upon spiritualistic premises, or upon the assumption that the principle of causality is everywhere external to, or independent of, the human mind—under which assumption I cannot see that it makes much difference whether the coercion comes from the

brain alone, or from the whole general system of things external to the human mind. And here it is that I think the theory of Monism comes to the rescue.

For, if physical and mental processes are everywhere consubstantial, or identical in kind, it can make no difference whether we regard their sequences as objective or ejective, physical or spiritual. Hence, we are free to regard all causation as of a character essentially psychical. But, if so, it must be self-contained as psychical; it cannot be in any way determined by anything from without, seeing that outside itself there is nothing in the Universe. Now, if this is true of the World-eject, it must also be true of the Man-eject, as well as of the Man-subject, or Ego. If all causation is psychical, that portion of it which belongs to, or is manifested by, my own personality is not laid upon me by anything from without; it is merely the expression of my own psychical activity, as this is taking place within the circumscribed area of my own personality. And this activity is spontaneous, in the sense that it is not coerced from without. All the sequences which that activity displays within this region are self-determined, in the sense that they are determined by the self, and not by any agency external to it. The only influence which any external agency can here exert, is that of insisting that bodily action—the physical outcome of my psychical processes—shall be in accordance with the conditions imposed by the

internal system of causation; but this does not influence in any degree those mental processes which do not express themselves in bodily action. Hence, it may be perfectly true that my bodily action in the past might have been different from what it actually was; for as this action was the outcome of my mentation at the time (according to the spiritual index, which is now our guide), and as this mentation was not coerced from without, it might very well have been different from what it was. Each of the mental sequences at that time was a result of those preceding and a cause of those succeeding; but behind all this play of mental causation there all the while stood that Self, which was at once the condition of its occurrence, and the *First Cause* of its action. It is not true that that Self was nothing more than the result of all this play of mental causation; it can only have been the First Cause of it. For, otherwise, the mental causation must have been the cause of that causation, which is absurd. Who or What it was that originally caused this First Cause is, of course, another question, which I shall presently hope to show is not merely unanswerable, but unmeaning. As a matter of fact, however, we know that this Self is here, and that it can thus be proved to be a substance, *standing under* the whole of that more superficial display of mental causation which it is able to look upon introspectively—and this almost as *impersonally* as if it were regarding the display as narrated by another mind. I say, then, that

the theory of Monism entitles us to regard this Self as the *fons et origo* of our mental causation, and thus restores to us the doctrine of Liberty with its attendant consequence of Moral Responsibility.

It may help to elucidate this matter if we regard it from another point of view. According to Hobbes, 'Liberty is the absence of all impediments to action that are not contained in the nature and intrinsical qualities of the agent.' Now, if we accept this definition, it is easy to show that the theory of Monism is really at one with the doctrine of Liberty. For, in the first place, according to the theory of Monism, the neurosis of the brain could not be what it is without the psychosis of the mind. Consequently, as above shown, it would be equally incorrect to say that the neurosis governs the psychosis, as it would be to say that the psychosis governs the neurosis. But, if so, the Will is free in accordance with Hobbes' definition of freedom. Suppose, for example, that on seeing a bone I think of Professor Flower, then remember that a long time ago I lent his book on Osteology to a friend, and forthwith resolve to ask my friend what has become of it; here my ultimate volition would be unfree if it were the effect of physical processes going on in my brain. But the volition might be free if each of these mental processes were the result of the preceding one, seeing that there may then have been 'an absence of all impediments' to the occurrence of these processes.

Of course it will be objected—as I have myself

urged in the preceding chapter—that causal action of any kind is incompatible with freedom of volition —that if there be any such causal action, even though it be wholly restricted within the sphere of mind, the Will is really compelled to will as it does will, is determined to determine as it does determine, and hence that its apparent freedom is illusory. Hobbes' definition, it may be urged, when applied to the case of the Will, is equivocal. No doubt a man is free as to his *action*, if there be an 'absence of all impediments' to his action—or, in other words, if he is able to act as he wills to act. But it does not follow that he is free as to his *will*, even though there be an absence of all impediments to his willing as he wills to will. For here the very question is as to whether there are any impediments to his willing otherwise than he does will. The fact that he wills to will as he does will proves that there are no impediments to his willing in that direction; but is there a similar absence of impediments to his willing to will in any other direction? If so, we are still within the lines of determinism. Thus Hobbes' definition of freedom really applies only to freedom of bodily action; not to freedom of volition, seeing that if my will is caused I could not have willed to will otherwise than I did will. Now, the answer which Monism supplies to this objection is that the will itself is here the ultimate agent, and *therefore an agent which must be identified with the principle of causality*. In other words, the very reason why we feel that

Hobbes' definition of liberty, while perfectly valid as regards bodily action, seems to lack something when applied to volition, is because volition belongs to the sphere of mind—belongs, therefore, to that sphere which the theory of Monism regards as identical with causality itself. Although it is true that volitions are caused by motives, yet it is the mind which conditions the motives, and therefore its own volitions. It is not true that the mind is always the passive slave of causes, known to it as motives. The human mind is itself a causal agent, having the same kind of priority within the microcosm as the World-eject has in the macrocosm. Therefore its motives are in large part matters of its own creation. In the intricate workings of its own internal machinery innumerable patterns of thought are turned out, some of which it selects as good, while others it rejects as bad; but no one of which could have come into being at all without this causal agency of the mind itself.

It will probably be objected that even though all this were granted, we cannot thus save the doctrine of moral responsibility. For it may appear that the liberty which is thus accorded to the Will is nothing better than liberty to will at random, as argued in my previous essay. But here we must observe that although we are thus shown free to will at random, it does not follow that we are likewise free to act in accordance with our volitions. And this is a most important distinction, which libertarians have hitherto failed to notice. If we

are free to will in any direction, it follows, indeed, that we are free to will at random; but it follows also, and for this very reason, that we are free to will the *impossible*. True, when we will what is known to be impossible of execution, we call the act an act of desire; but it is clearly the same in kind as an act of will, and differs only in not admitting of being translated into an act of body. Therefore I say that the restriction which is imposed upon us by the conditions of causality, whether external or internal, is not any restriction as to willing, but merely as to doing. It is not in the subjective, but in the objective world that we encounter the 'bondage of necessity.'

Now, the knowledge that we are thus restricted as to bodily action imposes that kind of restraint upon volition which is termed rational. There is nothing in the nature of things to prevent our willing anything that we wish; but there is something in the nature of things to prevent our doing everything that we will; and as the practical object of our volition is that of determining bodily action, we find it expedient to will only such things as we believe that we can do. To this extent, therefore, the Will is bound—namely, by the executive capacity of the body. But, strictly speaking, this is not a binding of the Will *qua* Will. Even in such cases, as St. Paul says, to will may be present with us, but how to perform that which is good we find not. I say then that although the Will is free to will whatever

it wills, nevertheless it would fail in its essential use or object did it refuse to will in accordance with the conditions which are imposed upon its executive capacity. Again, to quote St. Paul, the Will might say, All things for me are lawful; but all things are not expedient. Now, this consideration of expediency is one of constant and far-reaching importance. For not only, as already observed, does it lead to volition on the one hand as rational; but it also leads to volition on the other hand as moral. Let us take the two points separately.

Do we say that a man is not free to conduct a scientific research, because in conducting it he must employ the needful apparatus? Or do we say that a man is not free to marry, because in order to do so he must go through a marriage ceremony? Obviously, to say such things would sound very like talking nonsense. It is true that in neither case is a man free to gain his object without adopting the means which are seen to be necessary under the system of external causation in which he finds himself; but this does not mean that he is not free to do as he wills, unless it so happens that he wills to do the impossible. Thus, within the limits that are set by the conditions of causation, a man is understood to be free to act as he wills so long as he is not 'impeded' by some of those conditions. To say that he is not free because he cannot get beyond those conditions would be absurd, since, apart from these conditions, action of

any kind would be *a priori* impossible, and the man would have, as his only alternative, no-action.

Hence, in doing we must conform to the law of causation—which, indeed, is all that can be meant by doing—and if in willing what we do we must also conform to the law of causation, where is the difference with respect to freedom? Such restraint as there may be is here a restraint upon bodily action; not at all upon the mental action which we call volition. The Will may will in any way that it wills to will; but the body cannot act in every way that the Will may will it to act; therefore the Will finds it expedient to will only in such ways as the body can act—i. e. to conform in *its* action to the external system of causation. If this condition of all action is held to be compatible with freedom in the one case, so in consistency must it be held in the other. Equally in either case the agent can only be properly said to be unfree, if he be subject to causal restraint from without. And in neither case does the universal condition of acting under the law of causation constitute bondage, in any other sense than that of furnishing the agent with his conditions to acting in any way at all. Therefore, unless it be said that a man is not free to do as he wills because he wills to do the impossible, it cannot be denied that he is free to will as he wills because he wills according to law. For no action of any kind is possible contrary to law—a general fact which goes to constitute an argument *a posteriori* for the rationality of the World-eject—and

if volition constituted an exception to this general statement, it could only do so by becoming no-action. Now, it is by thus willing according to law—or with due reference to those external conditions of causality with which the executive capacity has to do—that volition is rendered rational. The restraint laid upon volition is not laid upon it *as* volition, but only in respect of execution. A man may will to marry as long and as hard as he chooses; but only if he further wills to take the necessary means can his volition become rational; it is irrational if he wills to marry, and at the same time wills not to go through the marriage ceremony. But although irrational, it is none the less free. Considered merely as an act of volition it is equally free, whether it be rational or irrational.

And, similarly, it is equally free whether it be moral or immoral. The objection that an uncaused volition cannot be a responsible volition depends for its validity on the meaning which we attach to the term 'uncaused.' If it be meant that the volition arises without any regard at all to the surrounding conditions of life, and is carried into effect without the agent being able to control it by means of any other voluntary act; then, indeed, whatever else such an agent may be, he certainly is not moral. But if it be meant that among a number of uncompleted volitions drawing in different directions—and all 'uncaused' in the sense of belonging immediately to the Ego—one of them

gains an advantage by a conscious reference of the mind to it as good or evil, then the agent who is capable of giving this advantage to that member of the system may properly be called moral. The man who willed to marry, and yet willed not to go through the marriage ceremony, was, as we have seen, irrational. Similarly, if any agent wills an action without being able to consider any of the consequences which it may involve as either moral or immoral, such an agent is what we must properly call unmoral. Even in such an agent, however, the Will may be free ; only it would act without reference to any moral environment, just as the lunatic above supposed might endeavour to act without reference to any social environment.

Let us look at the whole matter in yet another light. We have repeatedly seen that the question of free-will, and therefore of moral responsibility, depends upon the question as to whether a man's action in the past might have been other than it was, notwithstanding that all the conditions under which he was placed remained the same. Now, to this question only one answer can be given by a dualistic theory of things, whether materialistic or spiritualistic. For it belongs to the essence of a dualistic theory to regard the principle of causation as a principle external to, and independent of, the human mind ; consequently, all the conditions of mental causation being given, a certain result in the way of volition is necessarily bound to ensue—or, in other words, at any given time in a man's

mental history, his action cannot have been other than it was. But now, according to the monistic theory, all causation has a psychical basis—being but the objective expression to us of the psychical activity of the World-eject. Consequently, according to this theory, the course of even strictly physical causation is inevitable or necessary only in so far as the psychical activity of the World-eject is held to be uniform, or consistent within itself. And forasmuch as all our knowledge of physical causation is necessarily empirical, we have but very inadequate means of judging how far this empirical index is a true gauge of the reality. We can, indeed, predict an eclipse centuries in advance; but we can only do so on the supposition that such and such physical conditions remain constant, and we have no right to affirm that such must be the case. Our knowledge of physical causation, being but empirical, is probably but a very inadequate translation of the psychical activity of the World-eject; and hence, not only have we no right to predict a future eclipse with certainty, but we have not so much as the right to affirm that even a past eclipse must have taken place of necessity. For we have no right to affirm that at any one period of cosmic history the action of the World-eject must have been what it was, or could not have been other than it was. Our knowledge of the obverse aspect of this action (in the course of physical causation) is, as I have said, purely empirical; and this is merely another way

of saying that although we do know what the action of the World-eject has been at such and such a period of cosmic history, we can have no means of knowing what else it might have been. For anything that we can tell to the contrary, the whole history of the solar system, for example, might have been quite different from what it has been; the course which it actually has run may have been but one out of an innumerable number of possible alternatives, any other of which might just as well have been adopted by the World-eject.

Now, if this is true of natural causation in the case of the macrocosm, it would appear to be equally so of natural causation in the case of the microcosm. Indeed, prediction in the case of human activity is so much less certain than in the case of cosmic activity, that the attribute of free-will is generally ascribed to the former, while rarely suggested as possibly belonging to the latter. And similarly as regards past action. If we are unable to say that at any period in the past history of the solar system the World-eject might not have deflected the whole stream of events into some other channel, how can we be able to say that at any given period of his past history the Man-eject could not have performed an analogous act? Obviously, the only reason why we are not accustomed to entertain this supposition in either case, is because our judgements are beset with the assumption that the principle of causality is prior to that of mind—something of the nature of Fate

superior even to the gods. And, no less obviously, if once we see any reason to regard the principle of causality as merely co-extensive with that of mind, the whole question as between Necessity and Free-will lapses; there is nothing to show that a man's action in the past might not have been other than it was. The only outward restraint placed upon the exercise of his Will is then seen to be imposed by the conditions of its executive capacity, and this restraint it is that constitutes man a rational agent. On the other hand, the structure of conscience—however we may suppose this to have been formed—imposes that further and inward restraint upon his Will, which constitutes man a moral agent. But neither of these restraints can properly be said to constitute bondage in the sense required by Necessitarianism, because neither of them requires that the man's Will must will as it does will; they require merely that his Will should act in certain ways if it is to accomplish certain results; and to this extent only is it subject to law, or to the incidence of those external influences which help to shape our motives.

But if this is so, is it not obvious that the sense of moral responsibility is rationally justified? This sense goes upon the supposition that a man's conduct in the past might have been different from what it was. Clearly, therefore, no question of moral responsibility can ever obtain in cases where the general system of external causation, or natural law, rendered an alternative line of action physically

impossible. *The question of moral responsibility can only obtain in cases where two or more lines of conduct were alike possible, so far as the external system of causation is concerned—or where the Will was equally free to choose between two or more courses of bodily action.* In other words, the question of moral responsibility has nothing to do with the only kind of bondage to which, according to our present point of view, the Will is subject—namely the bondage of being rationally obliged to will only what is capable of performance. The question of moral responsibility has only to do with the system of causation which is inherent in the mind itself; not with the system that is external to the mind. And as the theory of Monism identifies the mind with this its own inherent system of causation—or regards a man's Will as the originator of a particular portion of general causality—it follows from the theory that a man is justly liable to moral praise or blame as the case may be: the moral sense no longer appears as a gigantic illusion: conscience is justified at the bar of reason.

It appears to me impossible that any valid exception can be taken to the above reasoning, if once the premiss is granted—namely, that the principle of Causality admits of being regarded as identical with that of Volition. For if Cause is but another name for Will—whether the Will be subjective or ejective—it follows that my will is a first cause, which is determined by other causes

only in so far as the executive capacity of my body is so determined. As the whole stress of any objection to the present argument must thus be brought to bear upon the validity of this its fundamental premiss, a few words may now be said to show that the premiss is not wholly gratuitous. Of course the reason why at first sight it is apt to appear, not only gratuitous, but even grotesque, is because in these days of physical science the minds of most of us are dominated by the unthinking persuasion that the principle of causality is the most ultimate principle which our minds can reach. Most of us accept this persuasion as almost of the nature of an axiom, and hence the mere suggestion that our own volitions are really uncaused appears to us of the nature of a self-evident absurdity. A little thought, however, is enough to show that the only ground of reason which this strong prepossession can rest upon, is the assumption that the principle of causality is logically prior to that of mind. Therefore it is the validity of this assumption that we have here to investigate.

In the first place, then, the assumption is *ipso facto* irrational. For it is evident that in order to make the assumption there must already be a mind to make it. In other words, the very conception of the principle of causality implies a thinking substance wherein that conception arises, and therefore, as a mere matter of formal statement, it is impossible to assign logical priority to this conception over the thing whereby it is conceived.

In the next place, when we carefully analyze the nature of this conception itself, we find that it arises immediately out of our conception of Being as Being. This is shown by the idea of *equivalency* between cause and effect, which is an essential feature of the conception of causality as such. In other words, the statement of any causal relation is merely a statement of the fact that both the matter and the energy concerned in the event were of a permanent nature and unalterable amount. Therefore, *if* the ultimate Reality is mental, Causation *must* be ontologically identical with Volition. And that the ultimate Reality is either mental, or something greater, seems to be proved by the consideration that if it be supposed anything *less*, there must be an end of the conception of equivalency as between cause and effect, and so of the conception of causality itself; for, clearly, if my mind has been caused by anything less than itself, there is an end of any possible equivalency between the activity of that thing as a cause, and the occurrence of my mind as an effect [1].

[1] 'Whatsoever is first of all things must necessarily contain it, and actually have, at least, all the perfections that can ever after exist; nor can it ever give to another any perfection that it hath not actually in itself, or at least in a higher degree' (Locke). To this argument Mill answers, 'How vastly nobler and more precious, for instance, are the vegetables and animals than the soil and manure out of which, and by the properties of which, they are raised up!' But this stricture is not worthy of Mill. The soil and manure do not constitute the whole cause of the plants and animals. We must trace these and many other con-causes (conditions) back and back till we come to 'whatsoever is first of all things': it is merely childish to

Lastly, the conception of causality essentially involves the idea of finality as existing somewhere. Here I cannot do better than quote some extracts from Canon Mozley's essay on 'The Principle of Causation,' as he manages very tersely to convey the gist of previous philosophizing upon this subject.

'He (Clarke) brings out simply at bottom the meaning and significance of an idea in the human mind, that there is implied in the very idea itself of cause, firstly, that it causes something else; and secondly, that it is uncaused itself. . . . An infinite series of causes does not make a cause; . . . an infinite succession of causes rests, by the very hypothesis, upon no cause; each particular one rests on the one which follows it, but the whole rests upon nothing. . . . If from one cause we have to go back to another, that which we go back from is not the cause, but that which we go back to is. The very idea of cause, as I have said, implies a stop; and wherever we stop is the cause. . . . A true cause is a First Cause. . . . The atheistic idea thus does not correspond to the idea of reason. The atheist appears to acknowledge the necessity of a cause, and appears to provide for it; but when we come to his scheme it fails exactly in that part of the idea which clenches it, and which is essential to its integrity; it fails in providing a stop; . . . One might say to him, Why do you give yourself the trouble to supply causation at all? You do so because you consider yourself obliged in reason to do it, but if you supply causation at all, why not furnish such a cause as reason has impressed upon you, and which is inherent in your mind—a cause which stands still, an original cause? If you never intended to supply this, it must have been because you thought a real cause was not wanted; but if you thought a cause not wanted, why not

choose some few of the conditions, and arbitrarily to regard them as alone the efficient causes.

have said from the first that causes were not wanted, and said from the first that events could take place without causes?'

Or, to quote a more recent authority, and one speaking from the side of physical science, Prof. Huxley writes :—

'The student of nature who starts from the axiom of the universality of the law of causation, cannot refuse to admit an eternal existence; if he admits the conservation of energy, he cannot deny the possibility of an eternal energy; if he admits the existence of immaterial phenomena in the form of consciousness, he must admit the possibility, at any rate, of an eternal series of such phenomena; and, if his studies have not been barren of the best fruit of the investigation of nature, he will have enough sense to see that, when Spinoza says, "Per Deum intelligo ens absolute infinitum, hoc est substantiam constantem infinitis attributis," the God so conceived is one that only a very great fool would deny, even in his heart. Physical science is as little Atheistic as it is Materialistic[1].'

Now, if it thus belongs to the essence of our idea of causation that finality must be reached somewhere, I do not know where this is so likely to be reached as at that principle wherein the idea itself takes its rise—viz. Mind. But, if so, the statement that any particular acts of mind are uncaused ceases to present any character of self-evident absurdity.

And the argument need not end here. For Mr. Herbert Spencer has shown that our idea of causation, not merely requires a mind for its

[1] *Collected Essays*, vol. ix. 'Evolution and Ethics,' p. 140.

occurrence, but that in every mind where it does occur it has been directly formed out of experiences of effort in acts of volition. So that whether we analyze the idea of cause as we actually discover it in our own minds, or investigate the history of its genesis, we alike find, as we might have antecedently expected, that it is dependent on our more ultimate idea of mind as mind; the conception of causality is not, as a matter of fact, original or primal, but derivative or secondary. Therefore, if this conception necessarily involves the postulation of a first cause, there can be no doubt that such a cause can only be conceived as of the nature of mind. From which it follows that each individual mind requires to be regarded—if it is regarded at all—as of the nature of a first cause.

From this, however, it does not follow that each individual mind requires to be regarded as wholly independent of all other causes, or as never subject to any causal influence which may be exercised by other minds. Although each mind presents the feature of finality or spontaneity, this does not hinder that it also presents the feature of relation to other minds, which, therefore, are able to act upon it in numberless ways. Now, whether these minds are the minds of other men, of other intelligent beings, or of the whole World-eject, the causal activity which is exerted upon my mind expresses itself in that mind as a consciousness of motives. But although these motives may help to determine my volitions, there is no reason to suppose that

they are themselves the volitions, or that without them my mind would cease to be itself a causal agent. On the contrary, if this were supposed, the supposition would amount to destroying the causal agency of my own mind, which, as we have just seen, must either be original or not at all.

The way, therefore, that the matter stands is this. In so far as the microcosm is a circumscribed system of being—a thinking substance, a personality—it is of the nature of a first cause, free to act in any direction as to its thinking and willing, even though its thinking should be irrational as to truth, and its willing impossible as to execution. But in so far as the microcosm enters into relation with the macrocosm, the system of external causation which it encounters determines the character of its volitions. For although these volitions are themselves of the nature of first causes, it is no contradiction to say that they are —at all events in large measure—determined by other and external causes. This is no contradiction because, although they are thus determined, it does not follow that they are thus determined *necessarily*, and this makes all the difference between the theory of will as bond or free. In any stream of secondary causation each member of the series is understood to determine the next member of necessity; and it is because this notion is imported into psychology that the theory of determinism regards it as axiomatic that, if our volitions are in any way caused at all, they can only

be caused by way of necessity; and hence that under the operation of any given set of motives the action of the will can only take place in the direction of the resultant. But any such axiom is valid only within the region of second causes. On the hypothesis that volitions are first causes, the axiom is irrelevant to them; for although it may be true that they are determined by causes from without, it may not be true that they are thus determined of necessity: their intrinsic character as themselves first causes, although not isolating them from any possible contact with other causes, nevertheless does protect them from being necessarily coerced by these causes, and therefore from becoming but the mere effects of them. Such influence, or determination, as is exerted upon the Will by these external causes is exerted only because any individual mind is not itself a macrocosm, but a microcosm in relation to a macrocosm. If it were itself a macrocosm, standing out of relation to all other being, its prime causation would, of course, be wholly uninfluenced by any other causation; its volitions would then be concerned only with the determination of its own thoughts in a constant stream of purely subjective contemplation, such as that which the Hindoo philosophy attributes to God. But as the human mind discovers itself as existing in close and complex relations with an external world of an orderly character, the human mind finds that it is, as before said, *expedient* to adapt the course of

its own causal activity so as to bring it into harmony with the external order. For, although its own causal activity is primal, it by no means follows that on this account it is almighty; hence, even although it be primal, it is nevertheless under the necessity of adopting means in order to secure its ends—or, in other words, of adjusting its volitions (if they are to be practically efficient) to the conditions which are imposed upon its activity by the orderly system of the external world. Which is merely another way of stating the conclusion previously reached—viz. that the only necessity which can be proved to govern our volitions is the necessity which is imposed by our own considerations of reason and morality. Although we find that it is expedient to adapt our own causal activity to that larger system of causal activity by which we are surrounded—seeing that we must do so necessarily if we are to act at all—it by no means follows that we are bound to will what is expedient. In other words, the necessity laid upon us by the system of external causation is a necessity to adopt means for the attainment of ends; not a necessity to will the ends. And although in many cases this distinction may appear to be practically unmeaning—seeing that no man wills what he knows to be impossible of execution, and therefore that to say he is necessarily prevented from doing a certain thing seems practically equivalent to saying that he is necessarily prevented from willing that thing—in all cases where any

question of moral responsibility can possibly obtain, the distinction is one of fundamental importance. For, as already shown, any question of moral responsibility can only obtain where two or more lines of action are alike possible, and therefore where no necessity is laid upon the man in respect of carrying out his volitions, in whichever direction they may eventually proceed. Although in any event he is necessarily bound to adopt means in order to secure his ends, the moral quality of his choice has reference only to the ends which he chooses; not at all to the fact that he has to employ means for the purpose of attaining them. And even though his choice be influenced by his physical and social environment—as it must be if it be either rational on the one hand or moral on the other—it does not follow that this influence is of a kind to neutralize or destroy the causal nature of his own volition. For the influence which is thus exerted cannot be exerted necessarily, unless we suppose that the Will is not a first cause, which is the possibility now under consideration. If the Will is a first cause, the influences brought to bear upon it by its relation to other causes—and in virtue of which it is constituted, not only a cause primal, but also a cause rational and moral—these influences differ *toto coelo* from those which are exercised by any members in a series of secondary causes upon the next succeeding causes. And the difference consists in the absence of necessary or unconditional sequence in the one case, and its presence

in the other. However strong the determining influence of a motive may be, if the Will is a first cause, the motive must belong to a different order of causal relation from a motor; for, no matter how strong the determining influence may be, *ex hypothesi* it can never attain to the strength of necessity; the Will must ever remain free to overcome such influence by an adequate exercise of its own power of spontaneous action, or of supplying *de novo* an additional access of strength to some other motive. Of course, as a general rule, the Will allows itself to be influenced by motives supplied immediately by its relations with the external world; but this is so only because the thinking substance well knows that it is expedient so to fall in with the general stream of external causation. Hence, as a general rule, it is only in cases where the stream of external causation is drawing the will in different directions that the causal activity of the Will itself is called into play. Or rather, I should say, it is only in such cases that we become conscious of the fact. In the case of every voluntary movement the primal activity of Will must be concerned (and this even in the case of the lower animals); but as the vast majority of such movements are performed by way of response to frequently recurring circumstances, the response which experience has shown to be most expedient is given, as it were, automatically, or without the occurrence of any adverse motive. But in cases

where motives are drawing in different directions, we become conscious of an effort of Will in choosing one or other line of conduct, and, according to our present hypothesis, this consciousness of effort is an expression of the work which the Will is doing in the way of spontaneous causation.

Thus, upon the whole, if we identify the principle of causation with the principle of mind—as we are bound to do by the theory of Monism—we thereby draw a great and fundamental distinction between causation as this occurs in the external world, and as it occurs within the limits of our own subjectivity. And the distinction consists in the unconditional nature of a causal sequence in the external world, as against the conditional nature of it in the other case; the condition to the effective operation of a motive—as distinguished from a motor—is the acquiescence of the first cause upon which that motive is operating.

To the foregoing argument it may be objected that by expressly regarding the human mind as a first cause of its own volitions, I imply that that mind can itself have had no cause, which appears to be self-evidently absurd. But here again the absurdity only arises from our inveterate habit of regarding the principle of causation as logically prior to that of mind. If we expressly refuse to do this, there is nothing absurd in supposing the principle of mind wherever it occurs, as itself uncaused. For if, as we are now supposing, this principle is identical with that of causation, to say

that any mind is caused would be to say that a cause is the cause of itself, which would be really absurd. Under the present point of view, therefore, it would be a meaningless question to ask for the cause of a human mind, since, *ex hypothesi*, a human mind is a part of the self-existing substance, although not on this account self-existing as to its individual personality. As argued in a previous chapter, the personality appears to arise on account of circumscription, or the isolation of a constituent part of the World-eject. Therefore, although it may be reasonable to ask for a cause of this circumscription—or of the personality—it is not reasonable to ask for a cause of the substance which is thus circumscribed, or of the quality of spontaneity which that substance exhibits.

I will now state the whole case in another way. When we regard the facts of volition from the stand-point of psychology, the only theory of them which is open to us is, as we have before seen, that of determinism. Moreover, within these limits that theory is perfectly true. Psychology, as such, cannot recognize any principle more ultimate than natural causation, seeing that, like any other of her sisters in the family of sciences, her whole work and duty are confined to the investigation of this principle. But, just as in the case of all the other sciences, when her investigations have been pushed to the point where they encounter the problem of explaining this principle

itself, her investigations must necessarily cease; this principle is for all the sciences the ultimate datum, behind which they cannot go without ceasing to be sciences. But it does not follow that because the area of science is limited by that of causation, therefore we are precluded from asking any questions as to the nature of this ultimate datum. Of course any questions which we may thus ask cannot possibly be answered by science; they are questions of philosophy, in the consideration of which science, from her very nature and essential limitation of her office, can have no voice. Now, if on taking up the principle of causation where this is left by science —viz. as the ultimate or unanalyzable *datum* of experience, upon which all her investigations are founded, and by which they are all limited— philosophy finds any reason to surmise that it is resolvable into the principle of mind, philosophy is thus able to suggest that any distinction between mental processes as determinate or free, is really a meaningless distinction. For, according to this suggestion, the issue is no longer as to whether these processes are caused or uncaused; the very idea of cause has been abolished as one which belongs only to that lower level of inquiry with which science, or sensuous experience, is concerned. Here, no doubt, the question is a thoroughly real one, and, as shown in previous chapters, can only be answered in the way of determinism. But so soon as we ascend to the philosophical theory of

Monism, and so transcend the conditions of sensuous experience, the question whether volitions are caused or uncaused becomes, as I have said, a meaningless question, or a question the terms of which are not correctly stated. If it be the case that all causality is of a nature psychical, volition and causation are one and the same thing, differing only in relation to our modes of apprehension. It would therefore be equally meaningless to say that either is the cause of the other—just as it would be equally meaningless to say that neurosis is the cause of psychosis, or that psychosis is the cause of neurosis. Or thus, if volition and causation are one and the same thing, the only reason why they ever appear diverse is because the one is known ontologically, while the other is known phenomenally. Were it possible that the orbit of my own personality could be widened so as to include within my own subjectivity the whole universe of causality, I should find—according to Monism—that all causation would become transformed into volition. Hence, the only reason why there now appears to be so great an antithesis between these two principles, is because the volition which is going on outside of my own consciousness can only be known to me objectively, —or at most ejectively,—on which account the principle of causality appears to me phenomenally as the most ultimate, or most unanalyzable, principle in the phenomenal universe.

Upon the whole, then, I conclude that this is the teaching of Monism. If we view the facts of human volition relatively, or within the four corners of psychological science, there is no escape from the conclusion that they are determined with all the rigour which belongs to natural causation in general. For every sequence of mental changes and every sequence of cerebral changes, although phenomenally so diverse, are taken by this theory to be ontologically identical; and therefore the sequence of mental changes must be determined with the same degree of 'necessity' as is that of the cerebral changes. In short, mental causation is taken to be but the obverse aspect of physical causation, and, as previously remarked, it is impossible that the doctrine of determinism could be taught in a manner more emphatic. But, on the other hand, the theory of Monism is bound to go further than this. From the very fact of its having gone so far as to identify all physical processes with psychical processes, it cannot refuse to take the further and final step of identifying the most ultimate known principle of the one with the most ultimate known principle of the other; it is bound to recognize in natural causation the phenomenal aspect of that which is known ontologically as volition. But if these two principles are thus regarded as identical, it clearly becomes as unmeaning to ask whether the one is the cause of the other, as it would be to ask whether the one wills the other. For, *ex hypothesi*, the two things being one thing,

or but different modes of viewing the same thing, it becomes mere nonsense to speak of either determining the other; they are both but different expressions of the same ultimate fact, namely the fact of Being as Being.

If this result should be deemed unsatisfactory on account of its vagueness, let it be remembered that nothing is gained on the side of clearness by the converse supposition—viz. that priority should be assigned to the principle of causality. For, if we say it is inconceivable that anything should come into existence without a cause—not even excepting the principle of mind itself—then the question immediately arises—If all volition is caused, what is the cause of volition? What caused this cause? And so on till we arrive at the question, What caused the principle of causality? which is absurd. So that whether we regard mind as prior to cause, or cause as prior to mind, or neither as prior to the other, we arrive at precisely the same difficulty. And the difficulty is a hopeless one, because it concerns the ultimate question of Being as Being, or the final mystery of things.

Or, to state the matter in another way. An explanation means the reference of observed effects to known causes, or the inclusion of previously unknown causes among causes better known. Hence it is obvious, from the very meaning of what we call an explanation, that at the base of all possible explanations there must lie a great Inexplicable, which, just because more ultimate than any of our

possible explanations, does not itself require to be explained. To suppose that it does require to be explained, would be to suppose, that there is something still more ultimate into which, if known, this Inexplicable could be merged. Hence, unless we postulate an infinite series of possible explanations, there must be a basal mystery somewhere, which, in virtue of its constituting the ground of all possible explanations, cannot be, and does not require to be, itself explained. What is this basal mystery? Materialism supposes it to be lodged in Matter to the exclusion of Mind, while Idealism in its extreme forms takes the converse view. Theism supposes that it is an intelligent Person, who is held—and logically enough—not to be able to give any explanation of his own existence; he is, as it is said, self-existent, and, if asked to give any account of his being, would only be able to re-state the fact of his being in the words, 'I am that I am.' Lastly, Pantheism, or Monism, supposes the ultimate mystery to be lodged in the universe as a whole. Now, in the present connexion the question before us is simply this—Are we to regard the principle of causality or the principle of mind as the ultimate mystery? And to this question I answer that to me it appears most reasonable to assign priority to mind. For, on the one hand, our only knowledge of causation is empirical, while even as such it is only possible in the same way as our knowledge of objective existence in general is possible—namely, by way of

inference from our own mental modifications, which therefore must necessarily have priority so far as we are ourselves concerned. Next, on the other hand, even if we were to grant that the principle of causality is the prius, or the ultimate and inexplicable mystery, I cannot see that it is really available to explain the fact of personality. To me it appears that, within the range of human observation, this is the fact that most wears the appearance of finality, or of that unanalyzable and inexplicable nature which we are bound to believe must belong to the ultimate mystery of Being. But, be this as it may, the speculative difficulty of assigning priority to mind is certainly no greater than that of assigning it to causality; and this, as above remarked, is a sufficient answer to the question before us. According to Monism, however, there is no need to assign priority to either principle, seeing that one is but a phenomenal expression of the other.

Only one further question remains to be considered. From what I have just said on the subject of Personality, it will be apparent that the theory of Monism is in conflict with that of Theism only in so far as personality appears to imply limitation. This is a point which I have previously considered in these pages (Chapter iv, p. 109), with the result of appearing to show that the conflict is one which would probably vanish could we rise above the necessary limitations of human thought. Therefore, it here seems worth while to

ask, What can be said by the philosophical theory of Monism to the old theological dilemma touching free-will and predestination? Or, even apart from any question of Theism, what position does Monism suppose the psychical activity of man to hold in relation to that of the universe? Of course the latter statement of the question is included in the former; and, therefore, we may present it thus;—If the human will is free, and the theory of Theism substantially true, how are we to reconcile the fact with the theory?

According to the theory of Theism as sanctioned by Monism, what we apprehend as natural causation is the obverse of a part of a *summum genus*—i.e. the part falling within human observation whose whole is the Absolute Volition. This Volition, being absolute, can nowhere meet with restraint; it is therefore absolutely free, and can never contradict itself. Thus, those circumscribed portions of it which we know as human minds—and which, on account of being so circumscribed, are free within themselves—do not in their freedom conflict with the Absolute Volition. The Absolute Volition and the Relative Volition are always in unison. It is not that the Absolute Volition unconditionally determines the Relative Volition—else the Relative Volition would not be free; but it is that the Absolute Volition invariably assents to the Relative Volition as to the activity of an integral part of itself. This will be at once evident if we consider that our only idea of determination—i.e.

causation—is, upon the theistic theory, derived from our observing the consistency of the Divine Will, whether as revealed subjectively in the causal operations of our own minds, or objectively in the causal operations of Nature. Therefore, the idea of causation as between the Absolute Volition and the Relative Volition is an idea destitute of meaning. One Relative Volition may act causally on another Relative Volition, because each is wholly external to each. But all Relative Volitions are constituent parts of the Absolute Volition, which, therefore, cannot act causally *on* them, though it always acts substantially *with* them. Or, otherwise phrased, if the subject is a constituent part of its own World-eject—the volition of which is always self-consistent—it follows that the volition of the subject must always be coincident with that of its World-eject; and this without being determined in any other sense than the smaller size of a part can be said to be determined by the larger size of its whole: i.e. the determination—if we choose so to call it—is not a causal one, but arises immediately from the inherent nature of the case. The Absolute Volition within itself is free; the Relative Volition within itself is free; but there can be no conflict between these two freedoms. For, if there were a conflict, it must be caused; but where is the cause of this conflict to come from? Not from the Absolute Volition, which is everywhere self-consistent; not from the Relative Volition, which is wholly contained within the Absolute. Thus, regarded from within its own system,

the Relative Volition is free; while, regarded from the system of its World-eject, the Relative Volition is predestined. But the freedom is not incompatible with the predestination, nor the predestination with the freedom. They stand to each other in the relation of complementary truths, the apparent contradiction of which arises only from the apparently fundamental antithesis between mind and cause which it is the privilege of Monism to abolish.

Oxford
HORACE HART, PRINTER TO THE UNIVERSITY